The Whole Drug Manufacturers Catalog

TABLE OF CONTENTS

KITCHEN CHEMISTRY & BATHTUB DOPE

Home production methods to produce drugs from non-prescription items and household chemicals in your kitchen without prior chemical knowledge.

Extraction and Refinement of Cocaine

This is the widely-used commercial process for the extraction of cocaine from coca leaves which is employed in the "clandestine laboratories" in the jungles of Peru and Bolivia. In fact, this process consists of two high-yield extraction processes which are used "in the bush", both of which are very simple, one using water, dilute sulphuric acid, sodium carbonate and petroleum (oil) in an open vessel (like a 50 gallon drum), the other using the same materials except that hydrochloric acid is substituted for the sulphuric and results in cocaine hydrochlode rather than the sulphate. Also included is a process to purify the crude salts of cocaine to pure crystal cocaine hydrochloride, as well as a method to convert cocaine base to the crystal hydrochloride. All these procedures are exceedingly simple, having been developed at a time when organic chemistry was in its infancy and things were so nicely uncomplicated.

METHOD I

The leaves of the Coca plant contain alkaloids of four types: (1) Cocaines-alkyl acyl derivatives of ecgonine; (2) acylecgonines-acyl derivatives of ecgonine; (3) pseudotropeines-acyl derivatives of pseudotropeine; and (4) hygrines. The first and second types may be used as commercial sources of ecgonine, and thus for the manufacture of crystalline cocaine - methylbenzoyl - l ecgonine. The South American leaves yield about 1% of total alkaloids, mostly cocaine; the Ceylon and Malay leaves contain up to 1.6% of total alkaloids, of which about 65% is cocaine; the Java leaves contain 1.6% of alkaloids, scarcely any of which is cocaine, but from which cocaine is readily obtained.

In Peru the coca leaves are macerated in water containing dilute sulphuric acid in a series of 4 vessels, in each of which the leaves reamin for 4 days, the liquor being changed every day from the oldest tank to the next newer, the leaves from the oldest being thrown away. To this concentrated liquor is added carbonate of soda in a 60° (Be) solution. This precipitates the cocaine in solid form. Petroleum is then introduced and the whole gently agitated. The petroleum takes up the cocaine and is then washed with water to remove the last trace of acid. It is then treated with water containing dilute sulphuric acid in which the cocaine is redisolved, the whole being agitated for 30 to 40 minutes. After standing a short time, the cocaine solution is drawn off, leaving the oil to be used again. The acid solution is treated with sodium carbonate and allowed to stand 12 hours, and then passed through a filter which collects the precipitate. This is washed with distilled water and pressed into a brown paste in a filter press. Another method practised with the imported dry coca leaves is to macerate them, adding to the sodium carbonate solution and the petroleum and agitating the mixture for a few hours. The cocaine with cinnamylcocaine (etc.) are taken up by the petroleum, which is then shaken with dilute hydrochloric acid. The resulting hydrochloride of cocaine crystallizes out and is pressed and dried. This crude salt is purified by dissolving in water, liberating the free base by ammonia and redissolving in alcoholic hydrogen chloride. The pure cocaine hydrochloride crystallizes out. The mother liquor contains the other coca alkaloids, and these are converted into cocaine by heating with boiling hydrochloric acid and pouring into water. The truxillic acids separate and are filtered off. The filtrate is concentrated until ecgonine hydrochloride crystallizes out. This is benzoylated and methylated in turn to produce cocaine. The crude cocaine of commerce is converted into hydrochloride, in which form it is used as a drug, by first dissolving it in dilute hydrochloric acid and then treating cold with a solution of potassium permanganate - which destroys the larger part of the alkaloids accompanying the cocaine before attacking the latter. At that point the action is checked by adding sodium carbonate, and the precipitate is taken up with ether. The ether solution is evaporated to dryness and the residue dissolved in acetone and treated with hydrochloric acid.

Cocaine crystallizes from alcohol in four or six-sided monoclinic prisms at melting point 98'0C. It is levorotatory, soluble in alcohol, ether, benzene, or

light petroleum, sparingly in cold water. The aqueous solution is alkaline to litmus, slightly bitter, and numbs the tongue. The salts commonly used in medicine are the hydrochloride, nitrate, sluphate, benzoate, citrate, lactate, oleate and others. The various salts exert slightly different actions which adapt them to specific uses. Cocaine is accompanied in the plant by cinnamylcocaine (methylicinnamoylecgonine) alpha-truxilline (methyl-a-truxilloylecgonine) betatruxilline (methyl-B-truxilloylecgonine) tropacocaine (benzoylpseudotropeine), benzoylecgonine, hygrine, beta-hygrine, and cuscohygrine. Salts of cocaine are precipitated from solution by numberous reagents, amoung which are ammonia, caustic potash, sodium carbonate, picric acid, tannic acid, gold trichloride and platinum tetrachloride.

METHOD II

One hundred grams of finely ground leaves are moistened with 100cc. of 7% solution of sodium carbonate, packed in a percolator, and sufficient kerosene added to make 700cc. of percolate. This is transferred to a separator, and 30cc. of 2% solution of hydrochloric acid added and shaken. After separation the watery solution is drawn off from below into a separator, and this process is repeated three times, the alkaloid being in the smaller separator as an acid hydrochlorate. This is percipitated in ether with sodium carbonate, and evaporated at low heat with constant stirring and the product weighed.

METHOD III

Digest Coca leaves in a closed vessel at 70°C for two house with a very weak solution of caustic soda, and petroleum boiling between 200° to 250°. The mass is filtered, pressed while tepid, and the filtrate allowed to stand until the petroleum separates from the aqueous liquid. The former is then drawn off and neutralized with weak hydrochloric acid. The bulky precipitate of cocaine hydrochloride being recovered from the aqueous liquid by evaporation.

METHOD IV

Moisten ground Coca leaves with sodium carbonate solution, percolate with benzene or other solvent such as petroleum benzine, shaking the liquid with diluted sulfuric acid, and adding to the separated acid solution an excess of sodium carbonate. the precipitated alkaloids are removed with ether, and after drying with sodium carbonate, the solution is filtered and the ether distilled off. The residue is dissolved in methyl alcohol and the solution heated with sulfuric acid or with alcoholic hydrogen chloride. This treatment splits off any acids from the ecgonine and esterifies the carboxyl group. After dilution with water, the organic acids which have been liberated are removed with chloroform. The aqueous solution is then concentrated, neutralized, and cooled with ice, whereupon methylecgonine sulfate crystallizes. THIS is now benzoylated by heating with benzoyl chloride or benzoic anhydride at about 150°C. Upon adding water and sodium hydroxide, methyl benzoyl ecgonine or cocaine is precipitated. The cocaine is extracted with ether and the solution concentrated to crystallization. For the purification of cocaine, recrystallization from a mixture of acetone and benzene is generally preferred.

The Separation and Identification of Cocaine

Designed for use with small quantities of cocaine, this procedure is used to separate and re-crystallize the pure cocaine from any substance containing it, no matter what it is cut with or how much it is cut. It converts your "street coke" to the real thing - 100% pure cocaine. Also included are several alternative identification tests for the presence of cocaine and a wealth of information dealing with its chemical manipulation. By the simple process of weighing each sample before purification and weighing the pure cocaine derived from it, the exact percentage of "cut" can thereby be determined. Coke dealers be advised!

It is well known that the separation and positive identification of cocaine is very difficult even when it is present in large quantities, and when there is only a small amount present the separation is often claimed to be practically impossible. The work here recorded, however, demonstrates that these claims are unfounded.

Contrary to the statements appearing from time to time in the literature of the subject, cocaine has no characteristic color reactions on which any reliance may be placed, and if the amount present is sufficient to respond to certain reactions which have been described it could be more positively identified by its melting point and by other well-known properties; with a small quantity the color reactions are not given and in the presence of other alkaloids the tests would have little or no significance.

This paper deals entirely with the separation of small quantities of cocaine, and the procedures described have been evolved after considerable experimentation with various methods recommended in the literature for the separation of alkaloids and with others as yet unpublished.

Cocaine and other alkaloids of the coca leaf are readily hydrolyzed on heating; consequently it is advisable to keep the solutions at room temperature during the manipulation, and if it is necessary to heat at any stage of the process the solutions or residues should be cooled again as soon as possible. If the substance under examination is a solid it should be dissolved in water, if possible, or in normal sulfuric acid. If it contains much drug material and is not readily dissolved in water, an extraction with alcohol containing a small quantity of ammonium hydroxide should be resorted to, water added to the mixture, and the bulk of the alcohol subsequently evaporated. Liquid products, such as syrups, need no preliminary treatment unless they are very thick or in the form of an emulsion. In the former case they should be diluted to about the consistency of a 50% sugar solution, and in the latter some method which will separate the gum and fatty material must be adopted.

Having obtained a clear solution of the substance in question the procedure is as follows:

Transfer the solution to a separator and add a slight excess of ammonium hydroxide. (If the product was originally alkaline it is best a acidify it and then add a slight excess of ammonia. If a precipitate is formed it should be separated by filtration and the filtrate used for analysis.

Shake out the solution with 50cc of Prolius mixture (ether 4 parts, chloroform 1 part, and alcohol 1 part), and allow to stand; then collect the clear solvent in another separator and shake out the aqueous solution twice more with the Prolius mixture.

Filter the combined solvent solutions through a creased paper into a beaker and evaporate the liquid over a steam bath, using a fan. Do not allow the residue to dry, but as soon as the last portions of alcohol are driven off remove the beaker from the steam.

Add 25cc of Normal sulfuric acid in 10cc portions, warm the mixture slightly and then filter into a separator after each portion of the dilute acid is added, and finally wash with a little water.

Shake out the solution five times with 15cc portions of chloroform, preserving the chloroformic extracts in another separator.

Wash the latter with 10cc of distilled water, discard the chloroform, and add the wash water to the liquid acid which was shaken out with the chloroform.

Add 10cc of petroleum ether (boiling point 40° to

60° C.) and thoroughly shake the separator, separate the acid liquid, and discard the solvent.

Add a slight excess of ammonium hydroxide, cool the mixture, and then shake out the solution with 15 cc of petroleum ether and reserve the solvent solution in another separator.

Shake twice again with the same quantity of solvent, then wash the combined petroleum ether solutions once with distilled water and filter into a small beaker, washing the separator and filter with 10cc of petroleum ether.

Evaporate the petroleum ether rapidly over a steam bath, using a fan, and if cocaine was present in the original material it will be found in the residue.

By this method it is possible to obtain the cocaine in a very pure condition; in fact, it will often crystallize in a few hours even though the amount present be very small. The identification tests are conducted as follows:

Dissolve the residue in petroleum ether and pour portions of the solvent into a beaker and a small evaporating dish, reserving the remainder for subsequent tests.

After the solvent has evaporated dissolve the contents of the beaker in 5cc of Normal sulfuric acid, warming if necessary, and add potassium mercuric iodine test solution.

The formation of a precipitate indicates the presence of an alkaloid, but, of course, does not identify it as cocaine; if no precipitate occurs further tests are unnecessary.

To identify the alkaloid treat the contents of the evaporating dish with 2cc of concentrated nitric acid and evaporate the mixture to dryness over the steam bath. When there is no further odor of nitric acid remove the dish, cool, and add 5 to 10 crops of 1/5th Normal alcoholic potash solution, noting carefully the color and odor of the solution while the dish is cool and then applying gentle heat and noting the odor again.

Minute traces of cocaine will give off the odor of ethyl benzoate on treatment with nitric acid and alcoholic potash. The odor is very marked in its character and can be readily distinguished, though until one is familiar with it, a parallel test should be run using pure cocaine.

The color reaction is also of interest and will prove valuable in detecting the presence of other alkaloids. A purple color would indicate that atropine, strychnine or yohimbine were present, though it is well known that a residue obtained by the above method from the coca leaf will in some instances also give a purple color. Trepacocaine, benzoylecgonine and aconitine will also give the ethyl benzoate test, but the possibility of the presence of the first two can be eliminated by a subsequent microscopic test, and from the fact that the benzoylecgonine is not removed from the aqueous solution ot any great extent by petroleum ether. The latter fact is also true of aconitine, but the presence of this very poisonous alkaloid would be readily apparent when performing the physiological test.

Synthesis of Olivetol

(3,5-Dihydroxy Phenyl Pentane)

The complete procedure to make the olivetol needed in the synthesis of THC. This is a three-step process which uses only easy-to-obtain chemicals.

PHASE I: Set up a 1000 milliliter roundbottom, two neck flask on a heating pad. Attach a reflux condenser to one neck, stopper the other. Dry the flask and condenser by baking and attach a rubber tube packed with dry calcium chloride from the condenser to the outside air in order to vent the ether fumes and dry incoming air. The flask and condenser MUST be free from all traces of water.

Prepare a Grignard reagent from 50 grams of 1-chloro butane and 20 grams of magnesium turnings in 500 milliliters of anhydrous ether. Use an iodine crystal to start the reaction if necessary. Reflux until the reaction subsides completely. CAUTION: Consult reference sources for Grignard reagents before attempting this reaction! See Fieser & Fieser, Reagents for Organic Chemistry. Vol. I.

Add 92 grams of anhydrous cadmium chloride and reflux for 20 minutes. Remove the ether using vacuum and add 500 milliliters of benzene to the flask in order to keep out air.

Add 115 grams of 3,5-dinitro benzoyl chloride. Reflux for 15 minutes, distill off the benzene and distill again with vacuum. The largest fraction of the distillate, 3,5-dinitro butyl phenone, is the product of this phase.

PHASE 2: Heat 160 grams of zinc to melting and drop it in water. Transfer the granules from the water to a 5% solution of mercuric chloride. Let it sit for two hours. Pour off the liquid and rinse with water. The mercury-coated zinc granules produced in this way are known as Clemmenson zinc. Consult Fieser & Fieser, Reagents for Org. Chem. and other sources for a complete understanding of the technique before attempting the preparation.

Place the Clemmenson zinc in the flask, add 62 grams of 3,5-dinitro butyl phenone, add 200 milliliters of concentrated hydrochloric acid in 400 milliliters of distilled water. Attach the reflux condenser and heat gently until the reaction starts. When the reaction slows down, continue to reflux for 3 hours, adding 15 milliliters of concentrated hydrochloric acid each hour.

The product of this phase is 3,5-diamino phenyl pentane which need not be isolated. Continue to phase 3.

PHASE 3: Remove the unspent zinc amalgam, cool the mixture and add 50 milliliters of concentrated sulphuric acid and 40 grams of sodium nitrite. Keep the temperature near 15°C. for the first half hour, using an ice bath. Allow the temp. to rise to 95°C. Heat at 95°C. for two hours.

Extract with benzene three times to recover the 3,5-dihydroxy phenyl pentane (olivetol). Remove the benzene and purify the olivetol by vacuum distillation. The boiling point of olivetol at 6 millimeters pressure is 180°C.

PUBLISHERS NOTE: The chemicals and techniques described above are potentially hazardous. Consult the reference sources given and/or any others that may be available before attempting to proceed with the reactions. The publishers disclaim responsibility for any damage or injury resulting from the improper handling of the chemicals or techniques by unqualified persons.

Synthesis of Dimethyl Heptyl Resorcinol

Complete process to make an olivetol substitute for the synthesis of THC which results in a THC compound greater than 70 times more powerful than natural THC. Can be used for any of the three syntheses and, in effect, increases the yield by over 70 times.

PHASE I: Set up a 1000 milliliter roundbottom flask with reflux condenser. Mix 40 milliliters of concentrated hydrochloric acid in 460 milliliters of distilled water in the flask and add 130 grams of powdered iron. Add 100 grams of 3,5-dinitro benzoic acid and reflux for 2 hours on a heating pad. Filter the mixture and return the filtrate to the flask. The filtrate contains 3,5-diamino benzoic acid which is converted to the 3,5-dihydroxy compound (in PHASE 2) without separation.

PHASE 2: Set the flask containing the filtrate in an ice bath. When the temperature reaches 5°C. add 100 milliliters of concentrated sulphuric acid and 75 grams of sodium nitrite, keeping the temp. between 5°-10°C. After a half an hour, slowly bring the temp. up to 95°C. and heat at that temp. for 1 hour.

Let the mixture cool and extract it with ether in a separatory funnel. Pour off the ether layer and evaporate it. (Pour it into a shallow, glass dish and evaporate it by blowing it off with a hair dryer). The crystalline substance remaining after evaporation is 3,5-dihydroxy benzoic acid. Repeat the evaporation and extraction until no more crystal is obtained. Dissolve the crystal in hot ethanol and evaoprate to recrystallize the product.

PHASE 3: Dissolve 60 grams of sodium hydroxide in 500 ml. of water. Place it in the 1000 ml flask. Chill to at least 15°C. and add 2 grams of sodium sulfite. Stopper the flask tightly, using greased fittings, and shake for 10 minutes. Add 77 grams of the 3,5-dihydroxy benzoic acid as fast as possible and re-stopper quickly. When this has been completely dissolved, cool the flask in an ice bath.

Set up a fume hood. Place the flask on a magnetic stirrer, adding the stir-bar to the flask. Add 63 grams of dimethyl sulphate, stir for 20 minutes. Take care to keep the temp. low. After 20 minutes, add another 63 grams of dimethyl sulphate and allow the temp. to rise to 45°C. Reflux for 1 hour. Mix 10 ml of a 50% sodium hydroxyde solution with 15 ml of distilled water. Add this to the flask. Continue the reflux for another 1 hour. Cool to 0°C. Acidify with concentrated hydrochloric acid. Vacuum filter the solution and dry the precipitate of 3,5-dimethoxy benzoic acid with a hair dryer.

CAUTION: Dimethyl sulphate and its fumes are deadly poison! Just one breath or contact with the skin results in death within minutes. Wear rubber gloves, rubber apron and a face shield. Grease all fittings and make sure that the fume hood is pulling air. A face mask with an effective filter may be a life-saver. Take every precaution you possibly can and above all, prepare yourself thoroughly by consulting the reference sources for each reagent and reaction given in this and all other publications of a similar nature.

PHASE 4: Add 500 grams of the 3,5-dimethoxy benzoic acid and 310 ml of thionyl chloride to the flask and heat for 2 hours in a water bath. Vacuum distill at 150°C. and 18 millimeters pressure. Yield should be about 510 grams of 3,5-dimethoxy benzoyl chloride.

CAUTION: Thionyl chloride is extremely dangerous. One breath of it destroys the mucuous membranes, lungs, etc. usually resulting in death! Use every precaution as outlined in the cautionary note for dimethyl sulphate.

PHASE 5: Set up the flask with reflux condenser and a vent tube packed with calcium chloride to the outside air.

Prepare a Grignard reagent from 134 grams of dry 2-chloro heptane and 24 grams of magnesium turning in 500 ml of anhydrous ether. Use iodine crystals if necessary in order to start the reaction moving. Reflux until the reaction subsides. Cool the solution to -65°. by using a dry ice-acetone bath. Add 25

grams of anhydrous ferric chloride. While maintaining a temp. of -65°C., add 107 grams of the 3,5 dimethoxy benzoyl chloride. Stir for 4 hours at -65°C. Add finely ground ice, remove the flask from the dry ice-acetone bath and allow the temp. to rise to 25°C. Vacuum distill the mixture to recover 3,5-dimethoxyphenyl-2-heptanone, which will be the largest fraction and dry it over anhydrous sodium sluphate in a desiccator.

CAUTION: Check the scientific reference section in your local library for the correct procedures on preparation of Grignard reagents. Flask and condenser should be baked dry, stoppered and vent tube attached immediately after baking to keep them absolutely free from water.

PHASE †: Prepare the equipment as before for Grignard reagenat. Prepare a methyl Grignard reagent by reacting 95 grams of methyl bromide with 20 grams of magnesium turnings in 500 ml of anhydrous ether at a temp. below 3.5°C. (This is the boiling point of the methyl bromide and it must not be allowed to vaporize).

When the reaction is complete, remove the flask from the ice bath, add 150 grams of the 3,5-dimethoxyphenyl-2-methyl heptanone to the methyl Grignard reagent and reflux for 15 minutes.

Mix 1 ml of concentrated sulphuric acid to 99 ml of distilled water. Add it to the flask. Fit a distilling condenser to the flask, raise the temp. gradually to distill off the ether first, then the water and finally, the product of this phase, 1(3,5-dimethoxyphenyl) 1,2-dimethyl heptane.

CAUTION: This reaction is hazardous. Sodium metal is highly reactive. Consult reference sources before attempting the reaction.

PHASE 8: After the reduction is complete, the heptane derivative obtained is refluxed with hydriodic acid to give 1(3,5-dihydroxyphenyl)1,2-dimethyl heptane, otherwise known as 1,2-dimethyl heptyl resorcinol, the final product of this synthesis.

Congratulations!

PUBLISHERS NOTE: The chemicals and techniques described above are potentially hazardous. Consult the reference sources given and/or any others that may be available before attempting to proceed with the reactions. The publishers disclaim responsibility for any damage or injury resulting from the improper handling of the chemicals or techniques by unqualified persons.

Synthesis of Tetra Hydrocannabinol

Three separate process to make THC. Includes the Delta-1, Delta-6, and Adams' syntheses. The first two methods yield highly active THC isomers, using only two chemical reagents and one reaction with a minimum of equipment.

Synthesis of Racemic-Delta 1-3, 4-Trans-Tetrahydrocannabinol

Dissolve 15 grams of citral and 18 grams of olivetol in 100 millilters of anyhdrous methylene chloride at room temperature while stirring.

Add 1 millliliter of boron trifluoride etherate slowly, while continuing stirring. Avoid contact and fumes. Use an ice bath to maintain temperature.

Continue the stirring for 2 hours. Maintain a temperature of 20°-25°C.

Prepare 100 ml of 10% sodium carbonate solution in water.

When stirring is complete, transfer the mixture to a separatory funnel, add 20 mil of the sodium carbonate solution and shake vigorously for 10 minutes.

Separate the water layer and acidify it to recover the unreacted olivetol which is precipitated when acid is added.

Decant and discard the water. The olivetol may be placed in a desiccator to remove any water present and stored for later use.

Repeat the extraction, separation, acidification and decantation until no more olivetol is precipitated.

Place the layer remaining in the funnel into a desiccator with dry magnesium sulphate crystals to remove any remaining water content. Let it sit overnight, then evaporate. The gum residue remaining is the final product. The yield should be 5-10 grams. This may be purified by chromatography but it is unnecessary, as all the constituents or the residue are non-toxic.

(If purification is desired, however, pack a chromatography column with fluorisil, dissolve the fum in hexane and pour it in the column. Let the hexane drip out. Wash with more hexane. This will remove the inactive cannabinoids. Mix a solution of 95% hexane/5% ether. Run this through the column. This will remove the active THC along with some inactive isomers. Evaporate this extract.)

PUBLISHERS NOTE: The chemicals and reactions described above are potentially dangerous even to an organic chemist in a well-equipped laboratory. For the layman to attempt these procedures without first thoroughly preparing himself is to invite almost certain disaster. The publishers therefore disclaim responsibility for any damage or injury resulting from the improper handling of the chemicals or techniques hereinabove described, and strongly urge all persons who wish to obtain the product of this synthesis but are unable to secure the product this synthesis but are unable to secure the chemicals or cannot perform the reactions to use instead the easier, safer semi-synthesis, culture and extraction procedures.

Synthesis of Racemic-Delta 6-3,4-Trans-Tetrahydrocannabinol

Cool a flask containing 100 milliliters of dry benzene in an ice bath until a temperature of 5° Centigrade is reached.

Add 15 grams of citral and 18 grams of olivetol while stirring.

Add 10 ml of boron tribluroide etherate slowly, while continuing stirring. Avoid contact and fumes. Keep the temperature below 10°C.

Continue the stirring for 1 hour maintaining a temperature below 10°C.

While this reaction is proceeding, prepare a solution of 1% sodium hydroxide in water. 100 ml should suffice.

After stirring, transfer the mixture to a separatory funnel, add 20 ml of the sodium hydroxide solution, and shake vigorously for 10 minutes.

Separate the water layer and acidify it to recover the unreacted olivetol which is precipitated when the acid is added.

Decant and discard the water. The olivetol may be placed in a desiccator to remove any water present and stored for later use.

Repeat the extraction, separation, acidification and decantation until no more olivetol is precipitated.

Place the layer remaining in the funnel into a desiccator with dry magnesium sulphate crystals to remove any remaining water content. Let it sit overnight, then evaporate. The gum residue ramaining is the final product. This may be purified by chromatography but it is unnecessary, as all constituents of the residue are non-toxic.

(If purification is desired, however, pack a chromatography column with flourisil, dissolve the gum in hexane and pour it in the column. Let the hexane drip out. Wash with more hexane. This will remove inactive cannabinoids. Mix a solution of 95% hexane /5% ether. Run this through the column. This will remove the active THC along with some inactive isomers. Evaporate this extract.)

PUBLISHERS NOTE: The chemicals and reactions described above are potentially dangerous even to an organic chemist in a well-equipped laboratory. For the layman to attempt these procedures without first thoroughly preparing himself is to invite almost certain disaster. The publishers therefore disclaim responsibility for any damage or injury resulting from the improper handling of the chemicals or techniques hereinabove described, and strongly urge all persons who wish to obtain the product of this synthesis but are unable to secure the chemicals or cannot perform the reactions to use instead the easier, safer semi-syntheses, culture and extraction procedures.

Adams' Synthesis of Optically Active Tetrahydrocannabinols

React 2.5 grams of lithium with 20.5 grams of anhydrous n-butyl chloride.

Using the butyl lithium obtained in the first reaction, react this with 42 grams of anhydrous olivetol dimethyl ether (1(3,5 dimethoxy) nyl pentane) by adding the olivetol to the butyl litnium in a nitrogen atmosphere.

Shake continuously for 3 hours.

While the reaction product is shaking, dissolve 25 grams (26.8 ml) of dry pulegone (1-methyl-4-isopropylidene-3-cyclohexanone) in 50 ml of anhydrous ether, taking care that the mixture remains anhydrous.

Cautiously add the pulegone/ether to the reaction product.

Let the mixture sit for ½ hour.

Add ice water to the mixture, dropwise and using extreme caution, until the reaction ceases and no more hydrogen is evolved.

Extract the product with ether using a separatory funnel.

Separate the water and ether and distill at 1 millimeter pressure.

Dissolve the distillate in ethanol, add hydriodic acid and warm the solution until methyl iodide ceases to evolve.

Separate the product by evaporation. The gum residue remaining is the final product. It can be purified by chromatography but this is unnecessary, since the side-products are inactive and non-toxic.

(If purification is desired, pack a chromatography column with fluorisil, dissolve the gum in hexane and pour it in the column. Let the hexane drop out. Wash with more hexane. This will remove only the inactive substances. Mix a solution of 95% hexane/ 5% ether. Run this through the column. This will remove the active THC along with some inactive isomers. Evaporate this extract.)

PUBLISHERS NOTE: The chemicals and reactions described above are potentially dangerous even to an organic chemist in a well-equipped laboratory. For the layman to attempt these procedures without first thoroughly preparing himself is to invite almost certain disaster. The publishers therefore disclaim responsibility for any damage or injury resulting from the improper handling of the chemicals or techniques hereinabove described, and strongly urge all persons who wish to obtain the product of this synthesis but are unable to secure the chemicals or cannot perform the reactions to use instead the easier, safer semi-synthesis, culture and extraction procedures.

Supplement to the Synthesis of Delta-1-THC

A greatly expanded version of the synthesis of Delta-1-THC. It is written to go along with the synthesis, and enlarges upon each step in simple, easy to understand language. It is designed to enable the person of ordinary intelligence with no chemical knowledge or exprience to understand and actually perform the steps of the synthesis from start to finish. The result is a good yield of high quality THC. This supplement includes: A list of all chemicals and their amounts; A list of all equipment used and their size; A glossary giving a complete description of each and every piece of equipment, what they are used for, how they are used and where to get them; A glossary describing each chemical, its physical and chemical properties, its common uses in industry, availability, cost and where to get it. Graphically detailed instructions showing each move to make while following the synthesis. Each sentence of the synthesis has been expanded to a paragraph of explanatory notes.

Supplement to the Synthesis of Delta-1-1, 4-Trans-THC

Equipment

Magnetic Stirrer
250 ml Separatory Funnel
250 ml Erlenmeyer Flask
100 ml Graduated Beaker
Chromatography Column
Desiccator
Fume Hood
Gloves, Face Shield, Apron
pH paper or Litmus Paper
Fluorisil

Chemicals

15 grams Citral
18 grams Olivetol
1 ml Methylene chloride
Sodium carbonate
Magnesium sulphate
Silica gel
Concentrated Hydrochloric acid
Ether
Hexane

NOTE: Words in all capitals prededing each paragraph denotes the corresponding paragraph of the synthesis.

DISSOLVE 15 GRAMS, etc. — Rinse the Erlenmeyer flask with some ether and warm slightly to dry thoroughly. Do not use an open flame. An old hair dryer will come in very handy for this and many other operations. Place the flask on the magnetic stirrer, place the stirbar in it. Add 100 ml of methylene chloride. Add the citral and olivetol while stirring. CAUTION: Fumes of methylene chloride are poisonous! Use fume hood.

ADD 1 MILLILITER, etc. — Hook up the fume hood and turn on the fan. Suspend the hood high enough to allow access to the top of the flask. Put on the face shield, rubber gloves and rubber apron. Add 1 ml boron trifluoride etherate very slowly, a drop at a time. After a few drops, feel the flask for warmth (you may need to remove a glove) and if it is getting warm, remove the magnetic stirrer from under the flask while swirling the flask by hand, substitute a pan of ice water and set the flask in it. Let the temperature return to room temp. (25°C. or 78°F.) This ice bath should be prepared before the reaction is begun. If the boron trifluoride etherate is added slowly enough the ice bath is unnecessary but only a fool would take the chance.

CONTINUE THE STIRRING, etc. — When all the boron tribluroide etherate has been added, continue stirring for 2 more hours. Keep the fan on. The mixture will cool to room temp. when the boron compound is no longer added.

PREPARE 100 MILLILITERS, etc. — Dump about 10 grams of sodium carbonate into 100 milliliters of distilled water and shake well. (20 grams of sodium bicarbonate will work well also).

WHEN STIRRING, etc. — Turn off the stirrer. Pour the mixture in the separatory funnel. Measure 20 ml of the sodium carbonate solution with the graduated

beaker. Add this to the funnel. Place the stopper in the funnel and shake it vogorously by hand for 10 minutes or so.

SEPARATE THE WATER, etc. — Let the mixture settle. It will separate into two distinct layers, an oily layer on top and a watery layer on the bottom. Remove the stopper to release suction and, by slowly opening the petcock, drain the water layer into the Erlenmeyer flask. (Rinse and dry the flask first) Add concentrated hydrochloric acid a few drops at a time from an eye dropper until the mixture turns acidic. You can check this with litmus or pH paper. Blue litmus paper will turn red when the mixture starts to turn acidic. At some point after the mixture turns the blue litmus paper to red, unreacted olivetol will drop out of solution.

SEPARATE THE WATER, etc. cont. — Keep adding acid until no more olivetol drops out (precipitates). If you are not sure you have recovered all the olivetol, save the water for later attempts to recover more.

DECANT AND DISCARD, etc. — Pour off (decant) the water in the flask and save it as mentioned above. Empty the olivetol into a small glass jar uncovered and place it into the desiccator. Surround it with dry crystals of epsom salts or silica gel. Cover the desiccator. This will remove the remaining water from the olivetol and it can be used again in another batch.

REPEAT THE EXTRACTION, etc. — Add 20 ml more of the sodium carbonate solution to the oily layer in the funnel. Shake again for 10 minutes, separate the water layer, acidify it until no more olivetol precipitates, pour off the water, set it aside and place the olivetol in the desiccator. Repeat this procedure until you have a water layer out of which no olivetol can be precipitated no matter how much acid you add. Combine the water extracts and acidify them further if you wish to try to recover more olivetol.

PLACE THE LAYER, etc. — Place the oily layer into a desiccator with dry crystals to remove water content. The residue can then be absorbed into (mixed with) anything from corn starch to diatomaceous earth, placed into capsules or pressed into pills. Stuffing capsules is easier than pressing pills. Silica gel is a good medium for this. The average does of THC is 10 milligrams. The semi-pure produce you have at this stage is less active per unit of weight, so a test dosage of 10 milligrams would be less then a full does, and therefore, a good weight to start testing from.

IF PURIFICATION IS DESIRED, etc. — You really don't need this but if you wish, pack a chromatography column with Fluorisil. Dissolve the gum residue in a minimum amount of hexane. Pour this into the top of the column slowly. The residue with the TCH will remain in the Fluorisil. The hexane that comes through can be discarded. Pour hexane through the column until it appears to come through unchanged. Test the hexane periodically by placing a drop on a piece of clean glass and evaporating until no oily smear is left on the glass. A watch crystal is ideal for this. Mix together 19 parts hexane to 1 part diethyl ether. Use reagent grade ether. The mixture is measured by weight, not volume. Pour this mixture through the column, testing with the glass for oil. Save this mixture, it contains the active THC. When the glass no longer shows an oily smear, the operation is complete and the hexane/ether is then evaporated by gentle warming over a flameless heat source. The material remaining after evaporation is the active THC plus some inactive isomers. Treat this as given in the last paragraph. (PLACE THE LAYER, etc.) The reason this step is not necessary is that the unpurified compound still contains enough of the active THC to be placed in a capsule or tablet allowing for a suitable dosage, and the inactive compounds are all non-toxic.

Description of Equipment

Magnetic Stirrer — A small, metal box with a motor-driven magnet inside. It comes with a coated magnet (stirbar) which is placed in the reaction flask. The magnet in the box spins, causing the stirbar to spin,

thus stirring the chemicals in the flask.

Separatory Funnel — A pear-shaped, glass container with an opening on top fitted with a ground glass stopper and a spigot near the bottom to control the flow of liquid that is poured out of it. An absolute must for most lab operations. Substitutes can be found but none are satisfactory where exact measurement is required.

Erlenmeyer Flask — A cone-shaped glass container (large end down) with a small opening on top. Suitable for use as a reaction flask. Usually no ground glass stopper is available but a rubber or cork stopper can be fitted in order that contents may be shaken, etc.

Fume Hood — Serves the same function as an oven hood over a stove (to remove odors, vapors, etc.) but is vital in a lab when dealing with poisonous fumes.

Chromatography Column — A glass tube in which a variety of solid substances may be packed and liquid substances then poured through. The packing holds certain chemicals and others wash out with the solvent. In this way, some compounds which are difficult to separate by other means may be isolated.

Graduated Beaker — A glass tube for measuring liquids. It stands upright on a slightly enlarged base and has calibrated markings on the side for measurement.

Desiccator — A large, glass bowl with a cover and a raised pedestal (shelf) in the center. Used for removing water (moisture) from chemicals. The chemical is placed in an open container on the pedestal and a moisture absorbing (hygroscopic) crystalline compound is placed around and below it. The cover is then placed over the desiccator, creating an isolated atomsphere where the water is drawn from the chemical to be "dried" to the moisture attracting compound (called a "desiccant"). Any large pot, pan or bowl having a tight cover may be used as a desiccator. Common desiccants are magnesium sulphate (epsom salts) and silica gel. The crystals may be dried before using by warming in a open container.

Scale — An accurate scale with a wide range of weight measurement capability is an expensive preposition. A scale which can measure the smallest weights you will deal with is a must. Larger amounts can be weighed out a portion at a time and added together. Where accuracy is not critical, an inexpensive pan balance can sometimes be had from rare coin dealers for use in weighing coins. And, of course, there are always postage and kitchen scales. An accurate set of weights and a fine pan balance can usually be found by making the rounds of the pawn shops.

Protective Clothing — Most organic chemicals are flammable, explosive, corrosive, caustic or toxic to some degree. A large measure of safety can be gained by wearing rubber gloves, plexiglas face shield and a rubber apron. Even asbestos suits can be found at a moderate cost. The life you save in the event of an accident will definitely be your own.

Pertinent Data on Chemicals

Citral — A terpene found in the oil of lemon, orange and lemongrass. Usually obtained by the rectification of lemongrass oil. There are two isomers (cis and trans) called neral and gerenial respectively. This compound may be difficult to obtain. The isomers are also known as alpha and beta citral. The usual compound found in commerce is a mixture of the two isomers and is suitable for this synthesis. It is a pale yellow liquid having a strong lemon odor. It is used in perfumes, as a flavoring agent and as an intermediate for other aromatic compounds. The technical grade should be used. It can be isolated from lemongrass oil by fractional distillation as well as rectification and can be synthesized from geraniol, nerol, and linalool by oxidation with

chromic acid. Prepare a good cover story before attempting to purchase. Molecular wt. 152.

Olivetol — More properly called 5-pentyl resorcinol. Colorless crystals after distillation at 145°C. in high vacuum. Melting point 49°C. Hydrated prisms, melting point, 40-41°C. This is an uncommon chemical. It is difficult to obtain and is known to be a "watched reagent". In other words, it is on the hot list and you can't just walk in and buy it. Also, any 5-alkyl resorcinol will react with citral to form an active THC, although the yields and potencies vary radically. Most give a THC which is greater in potency than the natural isomer. One of these, called 1,2-dimethyl heptyl resorcinol, gives a THC that is 70 times more powerful than the natural THC. Molecular weight 180.

Boron Trifluoride Etherate — Also called boron trifluoride-ether complex. This is a relatively stable corrdination complex formed by the combination of diethyl ether with boron tribluoride, in which the boron atom is bonded to the oxygen atom of the ether. It is a liquid, while boron trifluoride itself is a gas. It is used mostly as a catalyst in organic reactions, which is its use in the synthesis of THC. It may be difficult to obtain without arousing suspicion. Boron trifluoride is derived from borax and hydrofluoric acid. Also from boric acid and ammonium bifluoride. The complex formed from either pair is then treated with cold fuming sulfuric acid to give boron trifluoride gas. The gas can then be bubbled through ether to form the double compound - boron trifluoride etherate. Diligent research in a good science library should yield the necessary information to implement this preparation. A word of caution, boron trifluoride gas is non-flammable and does not support combustion but boron compounds are poisonous. It is said that boron chemists have a tendency toward insanity from prolonged exposure to boron compounds. Before attempting to use any chemicals mentioned here or in any of our publications, always check the Dictionary of Hazardous Chemicals and other reference sources for all the date relating to the hazardous properties of the chemicals in question. The boron trifluoride gas may be more easily obtained than the etherate. Simple bubbling through diethyl-ehter would give you the etherate. The gas is used for measuring neutron intensity; silver soldering fluxes; gas brazing. If the gas is also unobtainable, boron trifluoride ethylamine can be heated to 110°C. or slightly above to release boron trifluoride gas which can be bubbled through the ether in the same operation.

Methylene Chloride - A colorless, volatile liquid with a penetrating ether-like odor. Poisonous when inhaled. Soluble in alcohol and ether. Insoluble in water. Specific gravity 1.335, boiling point 40.1°C. 11.08 lbs./gal. Use the technical grade. Easily obtained at chemical supply company. Avoid contact with skin.

Sodium Carbonate — White crystalline powder. Soluble in water. Melting point 109°C. Used in medicine, photography, etc. A very common chemical. Inexpensive, easy to obtain at drugstores, supermarkets. etc.

Magnesium Sulphate — Colorless crystals. The hydrated (water-bearing) crystals are known as Epsom Salts. The Epsom Salts are suitable for use as a desiccant after driving off the water by heating to 150°-200°C. Has many common uses. Inexpensive and available at drug and hardware stores, supermarkets. etc.

Silica Gel — An amorphous powder usually used as a desiccant. Also known as silicic acid. Can also be used to absorb drug-type chemicals which are difficult to crystallize. Consists of hydrated silicon oxide. Inexpensive. Can be obtained at drug and hardware stores, etc.

Hydrochloric Acid — Also known as muriatic acid. Consists of hydrogen chloride gas dissolved in water. Concentrated hydrochloric acid is 35-38% hydrogen chloride. Dilute hydrochloric acid is 10% hydrogen chloride. Has many uses. Easily obtained

at chemical co. Often at drug stores, and pool supply stores.

Ether — Correctly called diethyl-ether. A very flammable, highly volatile liquid. It forms an explosive mixture in air. A very dangerous chemical. Used for solvents, anesthetic, organic synthesis, perfumery, etc. Relatively easy to obtain from chemical co., drug stores, etc. Reagent or absolute grade should be obtained for use in chromatography.

Hexane — A colorless, volatile liquid. Highly flammable. Used principally as a solvent in the extraction of vegetable oils. Easily obtained from chemical supply company. Obtain reagent or spectro grade for use in chromatography.

Acid/Base Indicator — Wide range pH paper or litmus paper is all that is needed here. They turn color when dipped in chemical solutions, which indicates whether the solution is acidic, neutral or basic, and in the case of pH paper, the degree of acidity or alkalinity (basic properties). Manipulating the pH the addition of an acid or an alkali (base), for instance hydrochloric acid or sodium carbonate, is an important technique used in the extraction of organic compounds from their liquid solutions.

Fluorisil — The trade-name for a commercial substance commonly used to pack chromatography columns in order to separate various chemicals from solution. Inexpensive and easily obtainable at any chemical supply.

Culture and Extraction of the Psilocybe Mushroom

Carefully explains how to isolate the pure psilocybe fungus, how to mix culture media, incubate the media and grow your own organic psilocybin. Complete details on the extraction and purification of the psilocybin obtained from the cultures is also included.

Make a sterile water solution of spore dust or the internal tissue of the caps of Psilocybe mushrooms.

Plate it out in dilution in PDY agar in Petri dishes. After several days some plate should show signs of white mycelial mats.

Select the best looking culture growths, discarding molds, etc. Test these by reculturing in PDY broth, extracting with methanol and testing with Keller reagent (a solution of ferric chloride in glacial acetic acid - see U.S. Pharmacopeia.)

Make agar slants by melting PDY agar - fill 6" x ½" cap tubes ⅓ full of the melted agar - autoclave and let cool at a 17° angle until gelled.

Inocuite the slants with cultures from the Petri dishes which have tested out positive with Keller reagent.

Cap lightly until a mycelial mat is evident, then cap tightly and refrigerate.

The slants can be stored under refrigeration for up to one year.

Make up the rye grain medium, fill mason jars one third to one half full, cover with aluminum foil, place in pressure cooker containing a little water. Maintain 250°F. (120° C.) for approximately 20 minutes (15 pounds pressure), then turn off heat, let cool without reducing pressure.

Keep the medium at room temperature for three days, still sealed.

Inoculate the medium with loops of psilocybe mycelial from the stock cultures.

Keeping the jars covered, incubate for 10-12 days at 70-75°. If temperature is too high, fungus will fail to produce psilocybin, if too low, growth will be slower but will produce a good yield.

Follow the growth by testing the medium with a saccharimeter. Four days after all sugar has been used up, filter the medium through a flannel cloth, collect the mat of mycelia and dry it in an oven at less than 200°F.

Powder the mycelia with mortar and pestle, extract with methanol through filter paper testing extract periodically with Keller reagent until it tests out negative (no reaction).

Combine the extracts and evaporate. (A hair dryer will speed evaporatio).

CAUTION: Keep away from open flames! Use adequate ventilagion!

The residue remaining is the final product of this process, ready for capsulation and ingestion. Dosage normally ranges from 25-50 milligrams.

Preparation of Culture Media

Potatoe Dextrose Yeast (PDY) Agar:

Select 250 grams of potatoes and scrub without peeling. Cut them into approximately 1/8" slices.

Wash them in water until the water is clear. Discard the water. Rinse thoroughly with distilled water. Place in a pot or pan and boil in distilled water until soft.

Drain the liquid through a flannel cloth into a container. Wash the potatoes with more distilled water, draining it also through the cloth into the container.

Discard the potatoes and add distilled water to make up one liter. Heat this liquid to a boil.

Add 15 grams of agar and stir until dissolved. (Raise temperature slowly or a boilover will occur).

Add 10 grams of dextrose.

Add 15 grams of yeast extract.

While still hot, pour into Petri dishes and autoclave for 20 minutes at 250°F.

PDY Broth

Follow the above directions omitting the agar.

Rye Grain Medium:

For 1/2 pint containers:
50 grams whole rye grain,
80 milliliters water,
1 gram calcium carbonate.

For 1 pint container:
Simply double the above amounts.

For 1 quart container:
225 grams whole rye grain,
275 milliliters water,
4 grams calcium carbonate.

In case of rye grain medium becoming "stiff" simply add distilled water until the desired consistency is reached.

PUBLISHERS NOTE:

In all phases of this process, pure culture technique is absolutely essential. The technique is treated in detail in almost any bacteriologic or microbiological manual. Special attention should be given to the use of the inoculating loop. Positive results can not be obtained unless pure culture technique is adhered to scrupulously. Be careful with the methane. Evaporate thoroughly before ingesting. Methanol is poisonous!

Cultivation and Extraction of the Peyote Cactus

The procedures in this paper describe the production of pure organic mescaline. With the emphasis on extraction techniques, a number of alternate methods are detailed and bolstered with illustrations. The chemicals and techniques are within easy reach of the lay person. The total chemistry of the plant is discussed in depth. There are eleven known alkaloids in the peyote cactus. Most are undesirable. Through the use of this process pure mescaline may be isolated and the undesirable side-effects produced by these unwanted alkaloids eliminated.

Peyote (Lophophora williamsii) is a spineless cactus having an almost flat greyish green top that protrudes an inch or so above ground and having one or more long, tapering roots. (Figure 1A) The alkaloidal material (principally mescaline) is concentrated in the top which consists of a group of nodules. (Figure 1) Each of these nodules may be used as a "cutting" for the growth of a new whole plant. The growing time is lengthy however, and a trip to Texas may be the best way to proceed. An initial harvesting of the wild plant may yield enough mescaline to serve ones needs until the cultivated plants can mature. Peyote is grown in exactly the same manner and under the same conditions as other cacti and succulent plants. There are many texts available on this subject in your local library or ordered through a bookstore. Growing is easy.

The availability of peyote cactus in the southwest is well known. The principal growing area is the desert terrain along the U.S.-Mexico border from Del Rio to Laredo (Texas), with the highest concentration of the wild plant nearest Laredo. A recent telephonic canvassing of the cactus dealers from southern California to Texas (May, 1971) confirms that the plant is still growing wild in abundance at least around Laredo and the word is that one can stop by the side of the highway and fill a pickup truck with the plants growing within walking distance in a radius around the truck. This statement was made by a dealer in the area during a telephone conversation. He could not understand why there was a law against harvesting of the plant when it grew in such abundance. The statement was made in order to underscore a point and may be exaggerated, but all dealers agreed the plant is abundant in the area. Caution must be used however. The U.S. Border Patrol is everywhere as are other police-types. A vehicle could be either hidden or made to look disabled — possibly even abandoned. Peyote pickers could wear and carry the tools and trappings of rock hounds. Sentry could be set-up to give sufficient advance warning and the buttons dumped, discarded, scattered or buried.

The plants are cut about 1/2 inch below the top (See Figure 1B). The best time is at the end of the dry season, just before the rains come. The whole plant can be uprooted and the root transplanted. (Or the whole plant can be transplanted and used as a continuous source of nodules for cuttings). If the root is left intact a new plant top (or bud) will develop and one can return to the area for a second harvest. This is perhaps the best technique. (Hedge your bets).

After the tops are harvested, trim the bark from the root (Figure 1C). Rinse the plants lightly in cold water. Do not scrub. If the skin is bruised the mescaline will be leached out and wasted.

The common lab procedure for the extraction of mescaline calls for dried ground peyote. The tops are crushed between wood in a vise and dried in the sun or in an oven at 120°-170°F. then ground to powder. The powder is extracted with warm ethanol which contains 0.5% Ammonium hydroxide. The liquid is strained, the solvent removed by distillation and the residue treated to separate the component alkaloids. (See "The Alkaloids", Manske, Holmes, pp. 313-334).

The fastest, safest, least expensive and easiest method of extraction is water extraction of the fresh tops. (Although dried tops may be used). There are a number of techniques.

General Procedure for the Extraction of Peyote Alkaloids:

1. Disruption of the plant cell walls.
2. Solubilizing of the alkaloids.

3. Removal of the alkaloids in a water solution.
4. Separation of the solution from the plant solids.
5. Extraction of the alkaloids from the water solution.

The alkaloids present in peyote are liable to breakdown (HYDROLYSIS(BY HEAT, MOLDS, BACTERIA, AND ACIDS OR BASES. There are several alternate procedures one may use for extraction to combat this problem. Here are the three best:

1. Reduce the fresh tops to pulp in a blender. Acidify with citric acid. Heat until boiling. Strain, squeeze or press through a cloth. Re-boil in acidified water and strain again to remove total alkaloid content.

3. Place tops in a pressure cooker with a small amount of water. Acidify with citric acid. Cook at 20 lbs. pressure for about 15 minutes. Hot press through a cloth using pressure.

For each of these procedures, a second boiling in acidified water will remove the last traces of alkaloids.

In procedures 2 and 3 the tops need not be reduced to pulp since either freezing or pressure cooking completely ruptures the cell walls. Be careful not to overcook as this will hydrolyze the alkaloids.

At this point removal of the alkaloids in a water solution has been achieved, and the solution separated from the plant soilds. The solids are now discarded, and the alkaloids must be extracted from the solution.

Slow boiling or simmering will reduce volume about 90% with the formation of a resinous scum. Skim this off, wash with water, discard the solid matter and save the wash water. The concentrated solution will keep for several days if 1% benzene is added and the mix shaken thoroughly. It acts as a preservative to prevent hydrolysis of the alkaloids. The benzene can be skipped if you are continuing the extraction until completion, non-stop, or the solution can be evaporated to tar and kept without any breakdown for years.

The thick concentrated liquid must be acidified prior to extraction, since carbonate ions interfere with solubility of free mescaline. Experiments show that the amine-carbonate to free-amine equilibrium in sodium hydroxide solution is high enough to interfere with the efficiency of extraction. Acidification of the plant with 2 oz. citric acid per 5 gal. lot before cooking will free most of the alkaloids and destroy all carbonate by the time the solution is concentrated. Benzene (one oz./gal.) may be used as a preservative only if the liquid is to be used for extraction, because of its extreme toxicity.

For extraction, the mescaline must be released as a free base; extracted with a solvent to release it from the plant sugars and amino acids in the crude extract; and in turn, is extracted from the solvent by conversion to the salt of an acid.

To release mescaline as a free base, caustic soda is used since mescaline is exceeded in basicity by a fes bases less strong then sodium hydroxide. The caustic is made carbonate free by dissolving it in water to make a 50% solution (6 lbs./gal.). The carbonate settles out in 24 hours and pure sodium hydroxide solution is decanted. Keep away from air as it will pick up carbon dioxide and fix it as carbonate.

In continuing the extraction, acidify the concentrated solution. Let cool if necessary. Mix a 50% solution of caustic soda (Sodium Hydroxide in water - 6lbs./gal.). Add one volume of caustic solution to four volumes of the cool extract concentrate. Mix it in a large jug and immediately add 20 volumes of benzene or more.

CAUTION: Benzene and its fumes are extremely poisonous! Use adequate ventilation! Close the mouth of the jug and invert smoothly 50 times or more in order to mix the solvent with the extract liquor. Do Not Shake! If an emulsion forms, let the mix stand and stir slowly to break the bubbles. Try adding more benzene. This step must be completed within 4 hours or the caustic will break down the mescaline.

When part of the benzene has layered, draw most of it off by means of a pressure started siphon (see Figure 2). Collect it in a bottle and allow any residue

to settle. Pour the benzene from the settling jug into a clean jug, add a few drops of 10% H_2SO_4 (sN) and shake well. Test the benzene solution with pH paper to see if it is still basic. Keep titrating the benzene in this manner with acid until the benzene begins to turn neutral. This titration is best carried out using some kind of mechanical stirrer such as a magnetic stirrer. Over-acidity means bicarbonate must be used during recrystallization, which introduces more contaminants in the form of mineral salts which are a nuisance. A small amount of mescaline left in the benzene, making the solution slightly basic will not hurt at all since the next step is to return the used benzene to the crude basic extract solution for further extraction. No new caustic is added, and mixing is done carefully as before. The first extract yields about 80% of the total alkaloids; the second, 16%, the third, 3.2%; and the fourth, less than 1%. The crude extract is exhausted and may be discarded after four extractions, but the used benzene may be distilled to get rid of the waxes and gums.

The layer under the benzene in the acid extraction contains mushy impure alkaloids, benzene and water. Warm this gently, using a flameless heater and good ventilation. Pour off most of the separated benzene and evaporate the last bit off over a water bath. When all the crystals are dissolved, wrap the vessel in a towel to insulate it. When this slow cooling has taken the temperature to ambient, place the insulation and all into a refrigerator and continue cooling down to 0°C. If crystals have formed, the masses are mushed up to make filtering easier. The Buchner vacuum filter funnel, almost a necessity to the procedure, is prepared by wetting the filter paper and sucking it into place with the vacuum aspirator system (see Figure 3). Filter the crystals and wash them with ice-water, then acetone. Remove the mother liquor to a warm dry place where it may evaporate to a low volume. Re-dissolve the dry crystals in boiling water and add one tsp. activated charcoal per 100 ml of solution. Prepare the filter solution very quickly and very hot. Keep vacuum on as long as there is charcoal liquid in the funnel to prevent leakage into the filtrate. Wash the filter with a small amount of boiling water. Don't worry about diluting the filtrate too much; if the solution is too concentrated it will not crystallize right and the filter will clog up. Heat the vessel with the solution in a double boiler to re-dissolve any crystals formed prematurely. Crystallize as before. If the solution was treated properly, white needles will grow in a clear to light yellow mother liquor. The slower the crystallization, the larger the needles. Crush the crystal masses and filter, washing the crystals with ice-water and then acetone. Dry the product in a gentle warm oven and store in tightly closed bottles.

To get a better yield, one must go back and pick up any loose ends where extra mescaline might be. The first thing to do is concentrate the mother liquor taken from the pure crystals, and get a couple more crops out in this manner. Each time the water solution is cooled to 0°C., 3% mescaline is left. Finally a solution remains which is slightly brown or else just doesn't produce good crystals. This is evaporated to dryness and saved for later.

By this time the brown liquid from the very first crystallization should be much reduced in volume. Heat this black liquid to dissolve solids and add acetone cautiously with stirring. Use 10 times the volume in acetone. Cool, filter and wash with acetone. Combine this with the slightly impure solid above, dissolve in boiling water, and charcoal filter it, recovering a couple of more small crops of crystals if possible. Finally the crystals will begin to look funny, although they are clean. This is indicative that the less soluble mescaline has almost all crystallized out and the other alkaloids are starting to crystallize. These alkaloids are interesting and worth saving, but are non-hallucinogenic and are slightly poisonous. Many tailings may be saved and combined. Chromatography will separate them and recover more mescaline. Re-extraction from an alkaline solution may help get rid of Na_2SO_4 excesses. This is the complete purification process.

The final product is mescaline hemi-sulfate $2H_2O$. If pure mescaline, a clear corrosive oil, is desired, the procedure is simple from this point. Dissolve the pure hemi-sulphate in a 10% NaOH solution and ex-

tract with benzene. Evaporation in vacuo gives pure mescaline, but exposure to CO_2 in the air leads to the formation of mescaline hemi-carbonate. Careful titration of the mescaline-benzene solution with any desired acid and careful, slow evaporation of the resulting aqueous extract yields pure crystals of the salts of that acid.

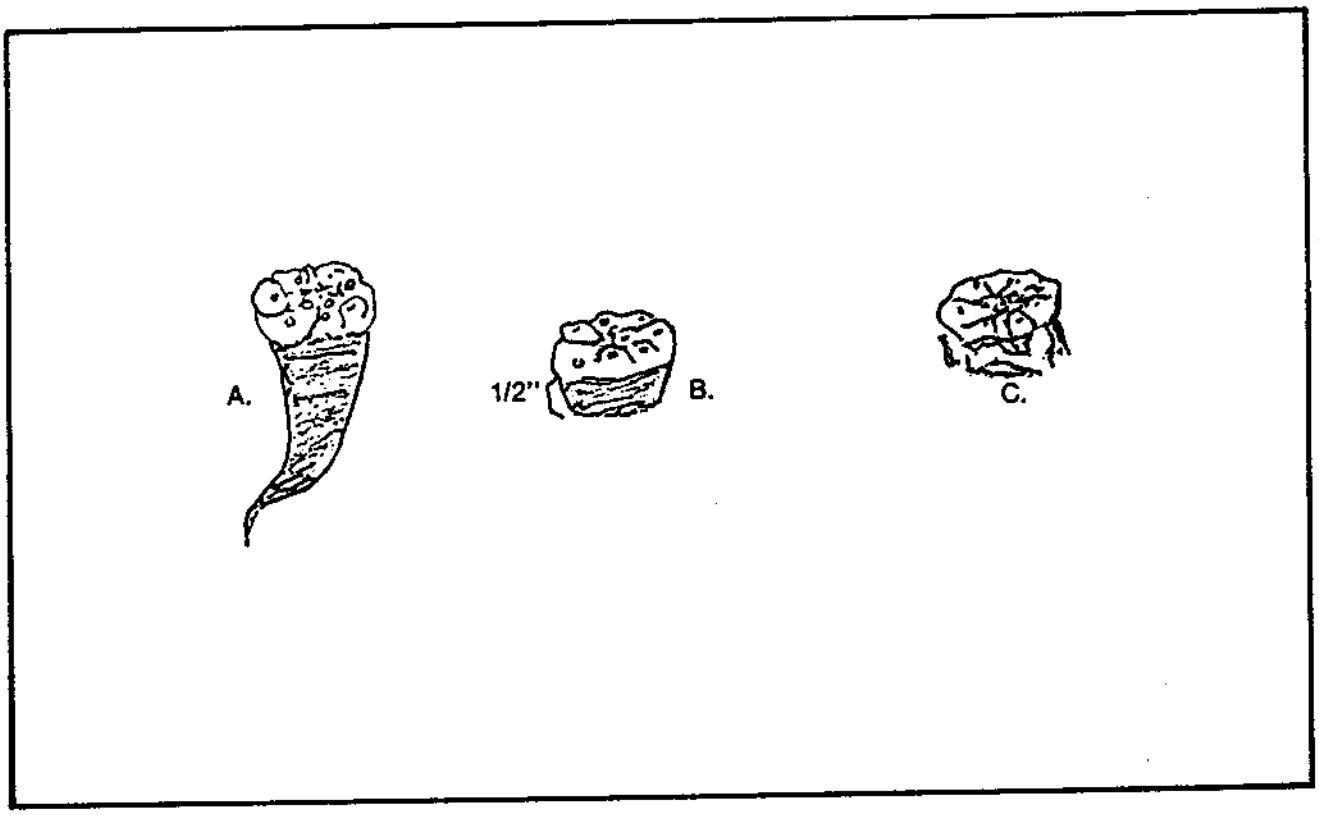


Figure 1

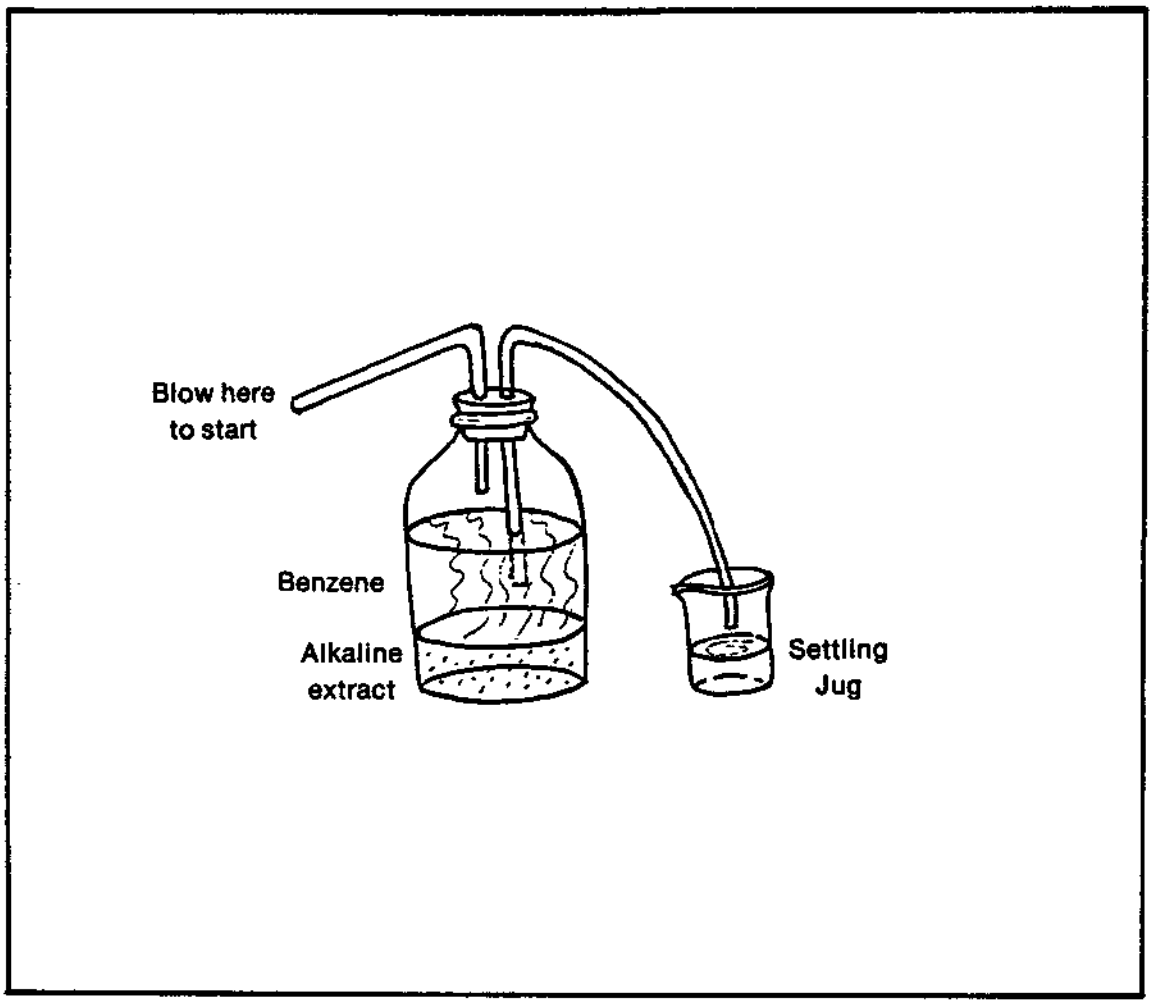


Figure 2

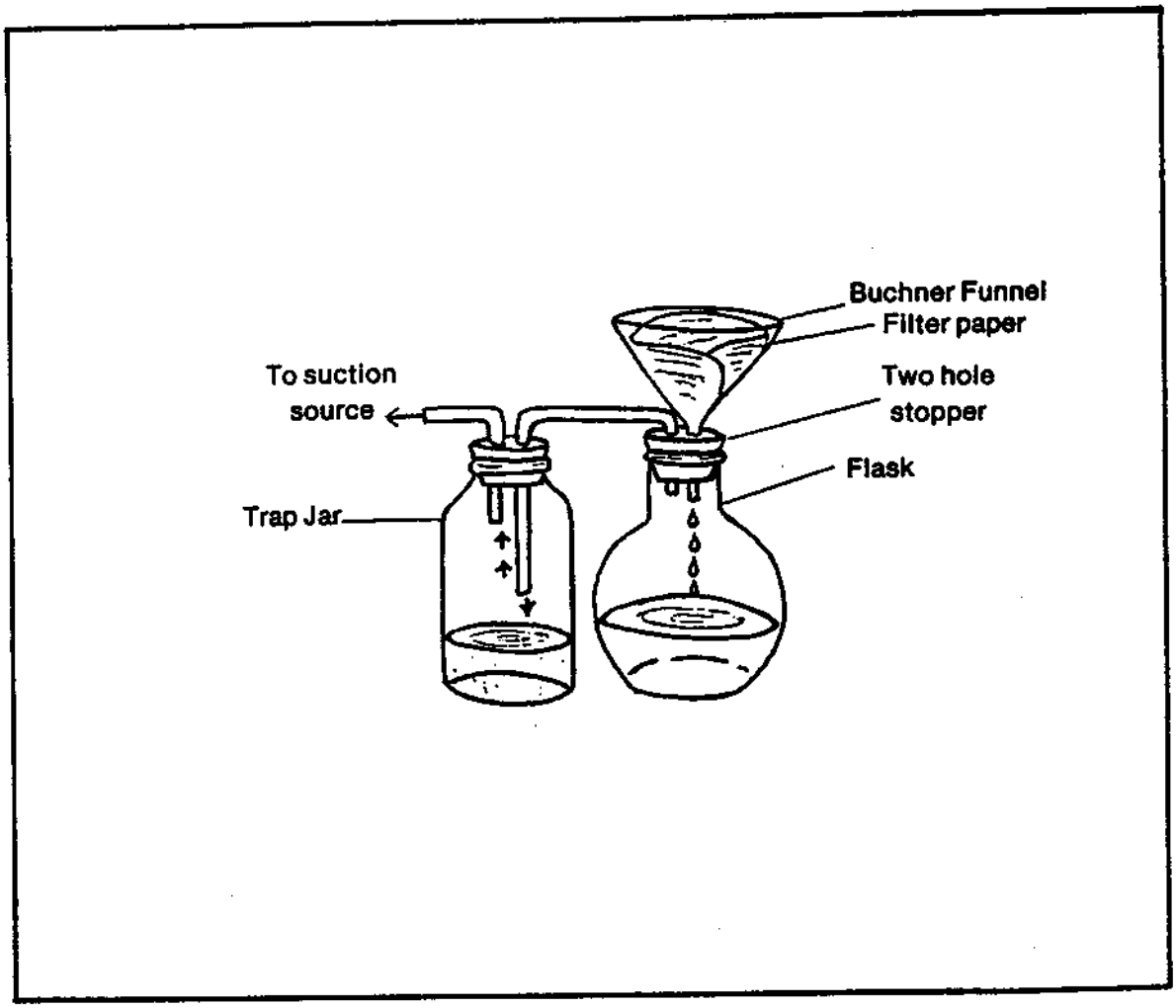
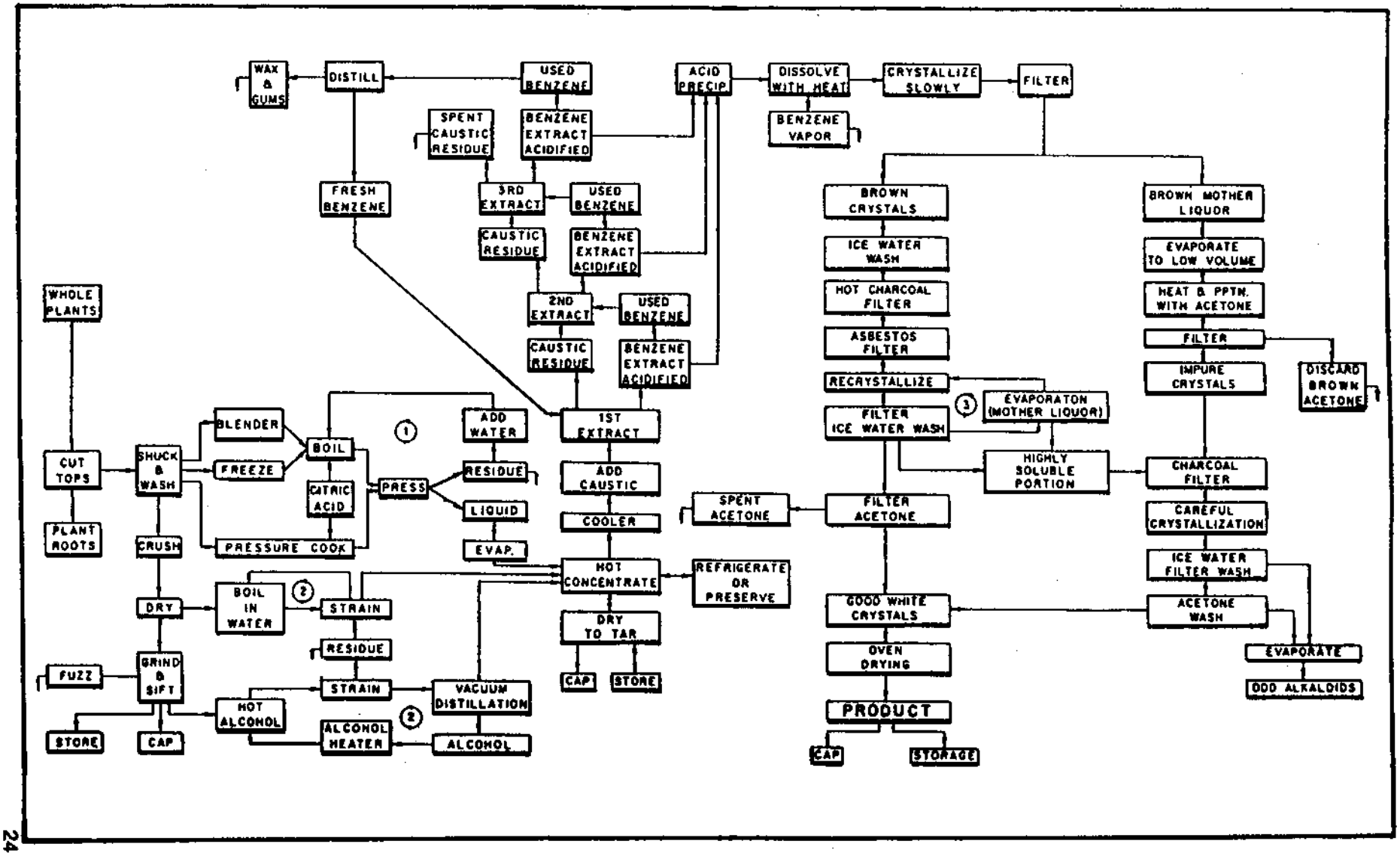

Buchner Funnel
Filter paper
To suction source
Two hole stopper
Flask
Trap Jar

Figure 3

ALKALOID	% PRESENT IN PEYOTE	MELTING POINT	SOLUBILITY
Mescaline	6.3%	35-36°	Water, chloroform, benzene, ethanol. Insol. in diethyl ehter and petroleum ether. (The boiling point of mescaline is 180-185° C. at 12 millimeters pressure.)
N-Methylmescaline	trace		
N-Acetylmescaline	trace	93-4°	
Anhalonidine	5%	160-161°	Water, ethanol, chloroform. Slightly soluble in diethyl ether. Insol. in petroleum ether.
Anhalonine	3.0%	85.5°	Water, diethyl ether, chloroform, methanol.
Pellotine	0.74%	111.5°	Ethanol, diethyl ether, chloroform. Partly soluble in petr. ether. Slightly sol. in water.
Lophophorine	0.5%		Most organic solvents. Insoluble in water.
Anhalamine	0.1%	187-191°	Hot ether, water, alcohol. Slightly sol. in diethyl ether, benzene, chloroform, petr. ether.
Anhalinine	0.01%	61-63°	Unavailable
Anhalidine	0.001%	131-133°	Unavailable
O-Methyl-d-anhalonidine	trace	Oil, b.p. 140°C. at 0.5 milli.	Unavailable

Peyote Extraction Chart

Complete with Alternate Procedures



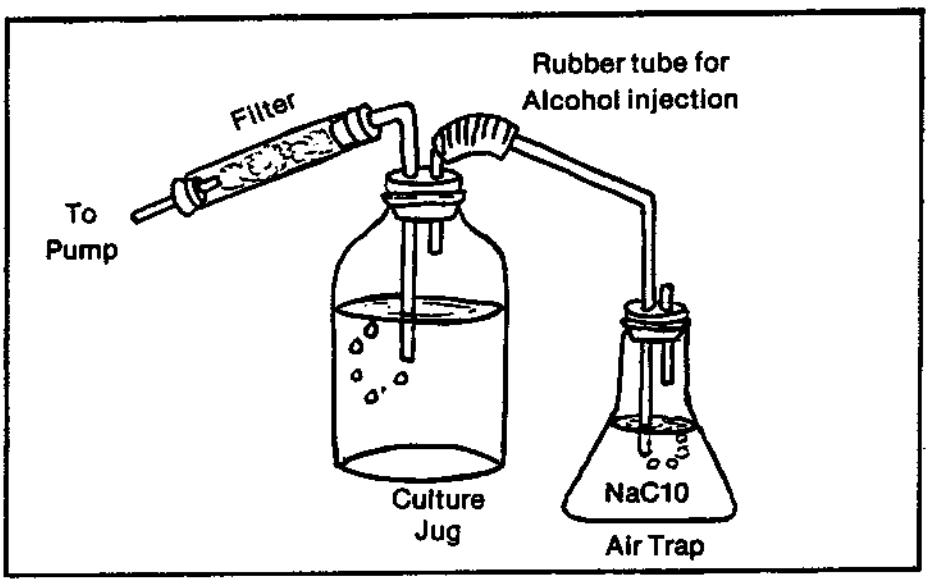

Rubber tube for
Alcohol injection
Filter
To
Pump
Culture
Jug
NaC10
Air Trap

Figure 4

The Culture and Extraction of Ergot Alkaloids

This procedure details how to locate and isolate the pure fungus (Claviceps purpurea) from common rye grain. How to prepare a culture medium from common materials to grow the fungus, and how to inoculate it. Includes a method of preparing secondary culture jugs with aeration apparatus for the large-scale production and refinement of ergot alkaloids. These alkaloidsmay then be converted to the active lysergic acid amide for direct use as an organic substitute for LSD, (see Extraction of Lysergic Acid Amides) or may be employed as the starting material in the snythesis of LSD. Includes instructions to make all the materials needed at almost no cost.

Make up a culture medium by combining the following ingredients in about 500 milliliters of distilled water in a 2 liter, small-neck flask:

Sucrose ..... 100 grams
Chick pea meal ..... 50 grams
Calcium nitrate ..... 1 gram
$Ca(NO_3)_2$
Monopotassium phosphate ..... 0.25 grams
KH_2PO_4
Magnesium sulphate ..... 0.25 grams
$MgSO_4$
Potassium chloride ..... 0.125 grams
KC1
Ferrous sulphate heptahydrate ..... 8.34 milligrams
$FeSO_4\ 7H_2O$
Zinc sulphate heptahydrate ..... 3.44 milligrams
$ZnSO_4\ 7H_2O$

Add water to make up one liter, adjust to pH 4 with ammonia solution and citric acid. Sterilize by autoclaving.

Inoculate the sterilized medium with Claviceps purpurea under sterile conditions, stopper with sterilized cotton and incubate for two weeks periodically testing and maintaining pH 4. After two weeks a surface culture will be seen on the medium. Large-scale production of the fungus can now begin.

Obtain several ordinary 1 gallon jugs. Place a two-hole stopper in the necks of the jugs. Fit a short (6 inch) glass tube in one hole, leaving 2 inches above the stopper. Fit a short rubber tube to this. Fill a small (500) milliliter Erlenmeyer flask with a dilute solution of sodium hypochlorite, and extend a glass tube from the rubber tube so the end is immersed in the hypochlorite. Fit a long, glass tube in the other stopper hole. It must reach near the bottom of the jug and have about two inches showing above the stopper. Attach a rubber tube to the glass tube as ahort or as long as desired, and fit a short, glass tube to the end of the rubber tube. Fill a large, glass tube (1" x 6") with sterile cotton and fit 1-hole stoppers in the ends. Fit the small, glass tube in end of the rubber tube into 1 stopper of the large tube. Fit another small, glass tube in the other stopper. A rubber tube is connected to this and attached to a small air pump obtained from a tropical fish supply store. You now have a set-up for pumping air from the pump, through the cotton filter, down the long, glass tube in the jug, through the solution to the air space in the top of the jug, through the short, glass tube, down to the bottom of the Erlenmeyer flask and up through the sodium hypochlorite solution into the atmosphere. With this aeration equipment you can assure a supply of clean air to the Claviceps purpurea fungus while maintaining a sterile atmosphere inside the solution. (Figure 4).

Dismantle the aerators. Place all the glass tubes, rubber tubes, stoppers and cotton in a paper bag, seal tight with wire staples and sterilize in an autoclave.

Fill the 1-gallon jugs 2/3 ro 3/4 full with the culture medium and autoclave.

While these things are being sterilized, homogenize in a blender the culture already obtained and use it to inoculate the media in the gallon jugs. The blender must be sterile. Everything must be sterile.

Assemble the aerators. Start the pumps. A slow bubbling in each jug will provide enought oxygen to the cultures. A single pump can, of course, be connected to several filters.

Let everything sit at room temperature (25°C.) in a fairly dark place (never expose ergot alkaloids to

bright light - they decompose) for a period of ten days.

After ten days adjust the cultures to 1% ethanol using 95% ethanol under sterile conditions. Maintain growth for another two weeks.

After a total of 24 days growth period the culture should be considered mature. Make the culture acidic with tartaric acid and homogenize in a blender for one hour.

Adjust to pH 9 with ammonium hydroxide and extract with benzene or chloroform/iso-butanol mixture.

Extract again with alcoholic tartaric acid and evaporate in a vacuum to dryness. The dry material is the salt (i.e., the tartaric acid salt, the tartrate) of the ergot alkaloids, and is stored in this form because the free basic material is too unstable and decomposes readily in the presence of light, heat, moisture and air.

To recover the free base for extraction of the amide or synthesis to LSD, make the tartrate basic with ammonia to pH 9, extract with chloroform and evaporate in vacuo.

If no source of pure Clavicpes purpurea fungus can be found, it may be necessary to make a field trip to obtain the ergot growths from rye or other cereal grasses. Rye grass is by far the best choice. The ergot will appear as a blackish growth on the tops of the rye where the seeds are. They are approximately the same shape as the sseds and are referred to as "heads or ergot". From these heads or ergot sprout the Clavicpes purpurea fungi. They have long stems with bulbous heads when seen under a strong glass or microscope. It is these that must be removed from the ergot, free from contamination, and used to inoculate the culture media. The need for absolute sterility cannot be overstressed. Consult any elementary text on bacteriology for the correct equipment and procedures. Avoid prolonged contact with ergot compounds, as they are poisonous and can be fatal.

PUBLISHERS NOTE: Contact with ergot compounds can be dangerous. Only after a basic understanding of the techniques employed in the handling of dangerous or poisonous organisms is reached should one proceed with the culture of ergot. The publishers, having no control over the dissemination of this process, and having stated the dangers inherent in working with ergot, disclaim responsibility for any damage or injury resulting from the mishandling or ergot or the use of this culture and extraction process by unqualified persons. For those unable to obtain ergot or unwilling to proceed with the culture of ergot for whatever reason, should use the high yield, high purity extraction process starting from the seeds of domestic morning glory (Ipomoea purpurea) or that of Hawaiian Baby Wood Rose (Argyreia nervosa). The process is simple, the seeds are safe, the lysergic acid amides obtained may be ingested to produce the LSD exprience and the process may also be used to extract these same amides from the ergot alkaloids produced in the ergot culture process.

The Extraction of Lysergic Acid Amides and Preparation of Lysergic Acid from the Amide

Two combined procedures for the extraction of lysergic acid amides from cultured ergot or from other, naturally occurring ergot compounds, morning glory seeds or the seed of Hawaiian baby wood rose. The amides obtained may then be used directly as an organic substitute for LSD, as the starting material in the synthesis of LSD, or converted to lysergic acid for use in other syntheses of LSD which require that compound as the starting chemical.

Extraction of Lysergic Acid Amides

Starting with the young seeds of Hawaiian Baby Wood Rose (Argyreia Nervosa) or the seeds of one of the several varieties of domestic morning glory Ipomoea Purpurea), particularly that of Pearly Gates, Wedding Bells and Heavenly Blue, reduce the seed material to a fine powder in a blender, and spread it out to dry. Grind it again if it is not fine enough after the first time due to dampness.

Saturate the powdered seed material with lighter fluid, naphtha or ligroine. When completely saturated, it should have the consistency of soup.

Pour it in a chromatography column and let it sit overnight.

Remove the fatty oils from the material by dripping the lighter fluid or other solvent through the column slowly and keep testing the liquid that comes through for fats by evaporating a drop on clean glass until it leaves no greasy film. It will take several ounces of solvent for each ounce of seeds.

Mix 9 volumes of chloroform with 1 volume of concentrated ammonium hydroxide and shake it in a separatory funnel.

When it settles the chloroform layer will be on the bottom. Drain off the chloroform layer. Discard the top layer.

Drip the chloroform wash through the column and save the extract. Test continuously by evaporating a drop on clean glass until it ceases to flouresce.

Evaporate the chloroform extracts and dissolve the residue in the minimum amount of a 3% tartaric acid solution. If all the residue doesn't dissolve, place it into suspension by shaking vigorously.

Color the solution with an acid base indicator and titrate to find the approximate number of moles of alkaloid present.

Transfer the solution to a separatory funnel and wash the other vessel with acid in order to get all the alkaloid out. Pour the washings in the funnel also.

Bring the pH up to make the solution basic by adding sodium bicarbonate solution, and add an equal volume of chloroform.

Shake this thoroughly, let it settle, remove the bottom layer and set it aside.

Once again, add an equal portion of chloroform, shake, let it settle and remove the bottom layer.

Combine the chloroform extracts (bottom layers) and evaporate.

The residue remaining after evaporation is the final product of the extraction process and is a semi-pure concentrate of lysergic acid amides.

Preparation of Lysergic Acid from the Amide

(The lysergic acid amide obtained from the extract of ergot or seeds need not be converted to the acid prior to its use in the synthesis of LSD providing that the synthesis used is that which we are currently offering, and giving as a starting material "ergot alkaloid". There are two additional processes for the synthesis of LSD. Both require the use of lysergic acid as a starting material).

Dissolve 10 grams of lysergic acid amide in 200 milliliters of methanolic potassium hydroxide solution.

Remove the methanol by vacuum as soon as the amide is dissolved.

dissolve the residue which is left into 200 milliliters of an 8% solution of potassium hydroxide in water.

Heat this mixture on a steam bath for 1 hour.

Pass a steam of nitrogen gas through the flask during the heating process. (The ammonia which is evolved in the gas stream may be titrated with hydrochloric acid in order to follow the reaction).

Neutralize the mixture with tartaric acid (neutral to congo red) and run it through a filter paper.

Extract the mixture with ether in a separatory funnel. Save the water layer, discard the ether layer.

Filter the solution through a filter paper and evaporate.

Upon evaporation, dry crystals of lysergic acid will be obtained.

publishers note: The chemicals and reactions described in the preparation of lysergic acid from the amide are potentially dangerous. The vapors of methanol are poisonous and, in certain concentrations in air, can be explosive. The publishers therefore disclaim responsibility for any damage or injury resulting from the improper handling of the chemicals or techniques by unqualified persons. We urge these people to use instead the amides produced through our culture and/or extraction processes. The amide requires some experimentation for dosage but 1 milligram of the semi-pure concentrate is a good starting point. 1 milligram of lysergic acid amide will produce effects comparable to 100 micrograms of LSD.

Synthesis of LSD #1

The synthesis described in this process combines the best features of the two standard syntheses of LSD to formulate a step-by-step procedure starting from any ergot compound, lysergic acid amides from the seeds of domestic morning glory, the seeds of baby wood rose or lysergic acid. Produces a high yield of pure LSD. Includes sections on isomerization, separation, purification and crystallization in easy to understand language.

Synthesis of LSD-25 (Dextro-Lysergic Acid Diethylamide Tartrate)

Preparatory: Obtain one yellow and one red photographic safety light and one weak, long-wave, ultra violet light. These must be used to prevent the hydrolysis (decomposition) of lysergic acid compounds. Aluminum foil must be used to cover the chemicals when light is present. Rubber gloves must be worn. These compounds are extremely poisonous.

Using the Yellow Light: Place 1 volume of ergot alkaloid in a small roundbottom flask. Add 2 volumes of anhydrous hydrazine and reflux for 30 minutes - or the mixture may be heated in a sealed tube at 112°C. for 30 minutes. If the reflux technique is used, maintain atmospheric pressure by using an open condenser or fractionating column.

After heating or refluxing, add 1.5 volumes of water to the mixture and boil gently for 15 minutes. After boiling is complete, cool the mixture in a refrigerator until solidification. The solid material obtained is slo-lysergic acid hydrazide.

Using the Red Light: Chill all the chemicals (reagents) to be used to 0°C. Place an open flask in an ice bath. Add 100 milliliters of concentrated hydrochloric acid. (Chilled to 0°C.)

Quickly add 2.82 grams of the lysergic acid hydrazide to the hydrochloric acid, being careful to maintain a temperature of 0°C.

Add 100 milliliters of a 0.1N (1/10th Normal) solution of sodium nitrite (chilled to 0°C.) and stir vigorously for 3 minutes.

Continue stirring at 0°C. and add dropwise 130 milliliters of the hydrochloric acid.

When the acid addition is complete, continue stirring for 5 minutes then neutralize the solution with sodium bicarbonate, using a saturated water solution of the bicarbonate.

Extract the solution with ether, remove the water layer, and dissolve the gummy substance in ether. Add this to the ether layer.

Add 3 grams of diethylamine for every 30 milliliters of the ether extract.

Let this stand in the dark and gradually warm up to 20°C. for at least 24 hours.

Evaporate this solution in a vacuum. The material remaining is a mixture of the inactive iso-lysergic acid diethylamide and the active lysergic acid diethylamide (LSD-25). The inactive isomer must now be converted (isomerized) to the active isomer to greatly increase the yield, since the inactive compound predominates in this synthesis.

Isomerization of Iso-Lysergic Acid Diethylamide to the Active LSD-25

USING THE RED LIGHT: Dissolve the material obtained from the synthesis into the minimum amount of ethyl alcohol (ethanol).

Mix a 4 Normal solution of potassium hydroxide in ethanol. The amount of solution needed is twice the volume of the iso-LDS/ethanol solution.

Add the two solutions together and let the mixture sit for four hours at room temperature.

Neutralize the mixture with dilute hydrochloric acid, then make it slightly basic with ammonium hydroxide.

Extract the mixture with chloroform, separate the chloroform layer, and extract this four times with a 25% volume of water.

Evaporate the chloroform in a vacuum. Discard the water extracts. The material left after evaporation is a mixture of iso-LSD and LSD-25, the active LSD-25 predominating. The mixture may now be separated by chromatography and the iso-LSD again isomerized by using the above process.

Separation, Purification and Crystallization of LSD-25

USING A DARKROOM: The material obtained from the isomerization process is now dissolved in a solution prepared from 3 parts benzene/1 part chloroform. Use 50 milliliters of solvent to 1 gram of the LSD material.

Mix a slurry basic alumina in benzene. Pack it in a one inch chromatography column until it fills 6 inches.

When the slurry settles, drain the benzene/chloroform down to the level of the basic alumina, and carefully add an equal amount of the LSD/solvent solution.

USING A LONG-WAVE ULTRAVIOLET LIGHT TO FOLLOW THE BLUE BAND, drain this solution through the column. The fastest-moving blue fluorescent band contains the active LSD-25. Collect this fraction and evaporate it in a vacuum. The syrup remaining will crystallize spontaneously, but slowly. Do not heat. Use the UV light only when necessary to follow the blue band in order to avoid decomposition of the compounds. Dissolve the syrup or crystal in tartaric acid solution and recrystallize to form the stable end-product (dextro-lysergic acid diethylamide tartrate).

The material remaining in the column may be removed with methanol; evaporated in a vacuum and recycled through the isomerization and subsequent procedures by itself or combined with fresh material. Also, all leftover solutions and residues may be neutralized with sodium bicarbonate, evaporated in vacuo, extracted with ammoniacal chloroform, the extract evaporated to dryness, and the residue re-used.

PUBLISHERS NOTE: The chemicals and reactions described above are potentially dangerous even to an organic chemist in a well-equipped laboratory. The publishers therefore disclaim responsibility for any damage or injury resulting from the improper handling of the chemicals or techniques described, and strongly urge all persons unqualified to perform the reactions to use instead the easier, safer ergot culture and LSD extraction process

Synthesis of LSD #2

This is a high yield process which is completed in **two steps**, starting from lysergic acid which may be obtained from morning glory seeds, wood rose seeds or an ergot culture using the methods described in **The Culture and Extraction of Ergot Alkaloids** process and **The Extraction of Lysergic Acid Amides and Preparation of Lysergic Acid from the Amide** process if it is otherwise unavailable. This is the quickest way to make pure LSD-25.

Step 1 — USE YELLOW LIGHT

5.36 grams of d-lysergic acid are suspended in 125ml of acetonitrile and the suspension is cooled to about −20°C. in a bath of acetone cooled with dry ice.

To the suspension is added a cold (−20°) solution of 8.82 grams of trifluoracetic anhydride in 75

milliliters of acetonitrile. The mixture is allowed to stand at −20° for about 1½ (one and one half) hours during which time the suspended material dissolves, and the d-lysergic acid is converted to the mixed anhydride of lysergic and trifluoroacetic acids.

The mixed anhydride can be separated in the form of an oil by evaporating the solvent in vaccuo at a temperature below about 0°C.

Everything must be kept anhydrous.

Step 2 — USE RED LIGHT

The solution of mixed anhydrides in acetonitrile from Step 1 is added to 150 milliliters of acetonitrile containing 7.6 grams of diethylamine.

The mixture is held in the dark at room temperature for about 2 hours.

The acetonitrile is evaporated in vacuo, leaving a residue of LSD-25 plus other impurities.

The residue is dissolved in 150 ml of chloroform and 20 ml of ice water.

The chloroform layer is removed and the aqueous layer is extracted with several portions of chloroform. The chloroform portions are combined and in turn, washed with four 50 milliliters portions of ice-cold water.

The chloroform solution is then dried over anhydrous sodium sulfate and evaporated in vacuo.

NOTE: Upon completion of Step 2 follow the procedure described for Separation, Purification and Crystallization of LSD-25. If a higher yield is desired, follow the procedure on Isomerization after doing the separation, purification and crystallization.

A WORD OF CAUTION: The chemicals and techniques described herin are potentially dangerous. It is highly recommended that the physical and chemical properties of the reagents used and the reactions employed in this synthesis be given further study by those persons unfamiliar with them before the synthesis is attempted.

Synthesis of LSD #3

This procedure gives the **highest yield** and is very fast. It is completed in only three steps, starting with lysergic acid, and produces very little of the inactive isomers. This means the isomerization technique described in the SYNTHESIS OF LSD #1 may be skipped and the pure LSD-25 crystallized on the third step. Of course, the inactive isomers may still be converted, if desired, to increase the yield even further.

The following procedure gives good yield and is very fast with little iso-lysergic acid being produced, however, the stoichometry must be exact or yields will drop.

Step 1 - USE WHITE LIGHT

Sulfur trioxide is produced in an anhydrous state by carefully decomposing anhydrous ferric sulfate at approximately 480°C. Store under anhydrous conditions.

Step II - USE WHITE LIGHT

A carefully dried 22 liter RB Flask fitted with an ice bath, condenser, dropping funnel and mechanical stirrer is charged with 10 to 11 liters of dimethylformamide (freshly distilled under reduced pressure). The condenser and dropping funnel are both protected against atmospheric moisture. 2 lb. of sulfur trioxide (Sulfan B) are introduced dropwise, very cautiously with stirring, during 4 to 5 hours. The temperature is kept at 0-5° throughout the addition. After the addition is complete, the mixture is stirred for 1-2 hours until some separated crystalline sulfur trioxide-dimethylformamide complex has dissolved. The reagent is transferred to andair-tight automatic pipette for convenient dispensing, and kept in the cold. Although the reagent, which is colorless, may change to yellow and red, its efficiency remains unimpaired for three to four months in cold storage. An aliquot is dissolved in water and titrated with standard NaOH to a phenolphthalein end point.

Step III — USE RED LIGHT

A solution of 7.15 g of d-lysergic acid mono hydrate (25 mmol) and 1.06 g of lithium hydroxide hydrate (25 mmol) in 200 L of MeOH is prepared. The solvent is distilled on the steam bath under reduced pressure. The residue of glass-like lithium lysergate is dissolved in 400ml of anhydrous dimethyl formamide. From this solution about 200ml of the dimethyl formamide is distilled off at 15mm pressure through a 12-inch helices packed column. The resulting anhydrous solution of lithium lysergate life behind is cooled to 0° and, with stirring, treated rapidly with 500ml of SO_3-DMF solution (1.00 molar). The mixture is stirred in the cold for 10 minutes and them 9.14 g (125.0 mmol) of diethylamine is added. The stirring and cooling are continued for 10 minutes longer, when 400ml of water is added to decompose the reaction complex. After mixing thoroughly, 200ml of saturated aqueous saline solution is added. The amide product is isolated by repeated extraction with 500ml portions of ethylene dichloride. The combined extract is dried and then concentrated to a syrup under reduced pressure. Do not heat the syrup during concentration. The LSD may crystallize out, but the crystals and the mother liquor may be chromatographed according to the instructions on purification in the synthesis of LSD #1.

A WORD OF CAUTION:

The chemicals and techniques described herein are potentially dangerous. It is highly recommended that the physical and chemical properties of the reagents used and the reactions employed in this synthesis be given further study by those persons unfamiliar with them before the synthesis is attempted.

Synthesis of Psilocin

(4-Hydroxy Dimethyltryptamine)

This synthesis was developed to produce pure psilocin, the active metabolite of the psilocybin found in Psilocybe mushrooms. This procedure performed entirely from available chemicals and is explicitly detailed.

PHASE 1: Place 60 milliliters of 95% ethanol in a flask over a magnetic stirrer.

Add 20 grams of 2,6-dinitro toluene while stirring.

Add 50 milliliters of concentrated ammonium sulfide solution dropwise while stirring over the period of one hour. A fume hood should be used during this reaction.

Evaporate the ethanol by placing the flask in a hot water bath, acidify the remaining solution with hydrochloric acid and let cool. Upon cooling, crystals of 6-nitro-ortho-toluidine will precipitate. Filter the solution when cool, make it basic with ammonium hydroxide, refilter and wash with water. The yield should be approximately 95%.

PHASE 2: Mix 50 milliliters of concentrated sulphuric acid in 800 milliliters of distilled water. Add 25 grams of the 6-nitro-ortho-toluidine. Dissolve 12.5 grams of sodium nitrite in water. Cool the acid/water
toluidine mixture to 5°C. in an ice bath and very slowly add the nitrite mix over a period of at least two hours. Let this mixture sit overnight in a refrigerator to complete the reaction.

Filter the solution with a filter paper. Mix 2167 milliliters water with 250 milliliters concentrated sulfuric acid. Add this to the filtered solution.

Place the reaction flask in a warm water bath and heat slowly to boiling. Nitrogen gas will evolve. Continue boiling until nitrogen bubbles cease.

Fill the flask with water and skim any residue from the surface. Cool the mix slowly to 0°C. and pour the mix through a filter paper to obtain the dry crystals of 6-nitro-ortho-cresol. The mix may again be extracted with ether to yield another gram of 6-nitro-ortho-cresol. Yield should be about 22 grams.

PHASE 3: Dissolve 20 grams of sodium hydroxide in 200 milliliters of water in a roundbottom flask. Dissolve 77 grams of the 6-nitro-ortho-cresol in this. Add a trace amount (a tiny pinch) of sodium sulfite.

When the cresol compound is completely dissolved, cool the mixture in an ice bath to 0°C. and cautiously add 63 grams (48 milliliters) of chilled dimethyl sulphate. The Fumes of Dimethyl Sulphate Are Highly Poisonous! Use a fume hood, work outdoors if possible. This addition should take at least one hour. Swirl the contents vigorously after each small addition. After the last addition, continue swirling until the mix warms to room temperature. Warm the mix further in a water bath to 100°C. for one hour.

The product, 2-nitro-6-methoxy-toluene, separates as a dark oil and may be washed with hot water. Cool and extract the dark oil with benzene or ether and dry in a desiccator over sodium sulphate.

PHASE 4: Shake 7.8 grams of potassium metal under xylene at 100°C. until it is reduced to a fine suspension. Let the suspension cool until the metal settles, then decant the xylene.

Wash the metal twice with 238 milliliters of anhydrous ether, leaving the last ether portion of the metal. Potassium metal is extremely unstable! Even contact with humid air will cause auto-ignition! Be warned!

Cautiously add absolute ethanol to the ether-potassium mix. Add slowly, not letting the ether boil too vigorously, until the reaction ceases.

Let it stand for ½ hour. The crystalline precipitate is potassium ethylate.

Add 27 milliliters of diethyl oxalate to the flask containing the potassium ethylate, keeping the ether from overboiling until a clear orange solution is formed.

Add 12.5 grams of the 2-nitro-6-methoxy-toluene. The mix will turn red.

Gently heat this to reflux temp. (35-38°C.) and reflux for 18 hours.

Extract the dark red, gummy precipitate with water and discard it, leaving the red alkaline solution in the separatory funnel.

Pour the red solution through a paper filter, return it to the funnel, wash it with ether to remove the unreacted nitro-methoxy-toluene, and acidify it with dilute hydrochloric acid.

With a pump or bellows attached to a glass tube,

blow air through the liquid to remove the dissolved ether.

Upon removal of the ether, the produce of this phase, 2-nitro-6-methoxy-phenyl pyruvic acid will separate out as a brown oil which may solidify slowly. Collect the oil and spread it on clean glass to dry.

PHASE 5: Prepare an ammonia solution of 140 milliliters of .88° ammonium hydroxide made up to 200 milliliters with water. Add 23.9 grams of the 2-nitro-6-methoxy-phenyl pyruvic acid. Should make a reddish-brown solution.

Dissove 180 grams of ferrous sulphate heptahydrate crystals in 200 milliliters of hot water. Add to the other solution. Should turn black instantaneously.

Heat the mix on a water bath for ½ hour, shaking frequently, then boil gently for another ½ hour. Let it cool.

Filter off the black sludge (ferric hydroxide) using some filter aid such as Celite or asbestos pulp to keep the filter from becoming stopped up by the sludge.

Wash the sludge with dilute hot ammonia until a portion of the filtrate is no longer cloudy when acidified with hydrochloric acid.

Concentrate the filtrate by evaporation until nearly dry, acidify with hydrochloric acid and extract it with acetone.

Evaporate the acetone, dissolve the residue in a small portion of concentrate ammonia and reacidify with the hydrochloric acid. The 'produce of this phase, 4-methoxy indole-2-carboxylic acid separates out as a dirty white, sandy precipitate which is collected and dried at 100°C.

PHASE 6: Decompose 3 grams of the 4-methoxy indole-2-carboxylic acid by heating at 245-250°C. for one hour, and distill the resulting 4-methoxy indole at 181-183°C. at 24 Hg. pressure. A yellow crystalline mass of the 4-methoxy indole will collect in the receiver.

Crush this to a powder and warm with dilute potassium carbonate to remove the remaining acid. Filter this, wash with more dilute potassium carbonate. Wash again with water. Save the filtrate to later acidify it for recovery of more acid.

Dry the precipitate of 4-methoxy indole in a vacuum desiccator over concentrated sulphuric acid. The 4-methoxy indole is the product of this phase of the synthesis and may be purified by recrystallization from petroleum ether.

PHASE 7: Place a 1000 milliliter roundbottom, two neck flask in an ice bath. Set up a wobble stirrer with a sparkless motor and a small separatory funnel. Add 400 milliliters of cold, anhydrous ether to the flask.

Add 75 grams of 4-methoxy indole through the funnel while stirring until dissolution is complete.

Mix 100 milliliters of anydrous ether and 50 grams of oxalyl chloride in the separatory funnel and add dropwise while stirring vigorously over a period of at least 15 minutes. Continue stirring for 10 minutes after the addition is complete. Temperature must be 0°C.

The Fumes of Oxalyl Chloride Are Poisonous! Good ventilation or a fume hood is necessary. After stirring, let the mixture sit until the solid material (4-Methoxy indole oxalyl chloride) settles, then pour off the liquid portion and discard.

Add fresh anhydrous ether, shake well, let it settle, pour off and discard again. Yield should be about 100 grams. If less, adjust the portions in the remaining steps to the actual yield.

PHASE 8: Cool the flask containing the 4-methoxy indole oxalyl chloride to −10°C. by using salt and ice. Moisture decomposes this substance. Proceed as fast as possible.

Add 400 milliliters of ice-cold anhydrous ether to 100 grams of the 4-methoxy indole oxalyl chloride precipitate.

Cool two 50 grams containers of dimethylamine to −10°C. Chill a flask with ground glass stopper to the same temperature and add 3 volumes of cold anhydrous ether to 1 volume of dimethylamine, dissolving the dimethylamine in the ether and adding measured quantities until the dimethylamine containers are empty. Dimethylamine/ether solution may be stored in this flask if low temperatures are maintained.

Add the dimethylamine/ether solution to the funnel and add dropwise to the mixture (4-methoxy indole oxalyl chloride) in the reaction flask while

stirring vigorously with the wobble stirrer until the addition is complete.

Continue stirring for ½ hour after the addition and after removing the ice bath until the reaction mixture rises to room temperature.

Discontinue stirring and allow the solid material to precipitate. Pour off the liquid portion and discard. The solid material remaining is 4-methoxy indole glyoxal amide.

PHASE 9: Vacuum filter the 4-methoxy indole glyoxal amide and wash with ether. Mix a slurry of the amide with ether and distilled water and filter again.

Dissolve this in a 50/50 methanol/benzene mixture and recrystallize.

Make some molds by wrapping aluminum foil around a pencil, melt the 4-methoxy indole glyoxal amide crystal and cast it into sticks using these molds. Place the two-neck flask in a heating mantle, stopper one neck, place a straight condenser in the other. Use a ring stand for support. Place a cork and rubber vent tube in the upper end. Place a magnetic stirrer under the mantle and put the stirring bar in the flask.

Make certain the flask and condenser are completely dry and add 300 milliliters of anhydrous ether. Stir in 15 grams of lithium aluminum hydride. While stirring continues, slowly add the sticks of 4-methoxy indole glyoxal amide by dropping them through the condenser. Keep an eye on the reaction rate or a dangerous boilover will occur. Use a suitable face shield and rubber gloves at all times when handling lithium aluminum hydride. Do not handle on a damp day - a dry atmosphere is necessary.

After a total of 22.7 grams of the 4-methoxy indole glyoxal amide has been added, continue the stirring and using a variac or other suitable control for the mantle, increase heat to the relux temperature. Reflux for 90 minutes.

Cool in an ice bath to 0°C. Very cautiously add small chips of ice or ice-cold methanol/water solution through the condenser until the mixture is completely hydrolized and there is no further reaction. This reaction is very hazardous. The temperature should not rise above 5°C. Use the magnetic stirrer and wait after each ice or methanol/water addition until no sign of reaction can be seen.

When hydrolysis is complete, add to the mixture 500 milliliters of a saturated solution of sodium sulphate in water, stir well and filter. Wash several times with ether and neutralize the filtrate with a 1/10th Normal (0.1 N) solution of hydrochloric acid in water. Always use distilled water. Extract the filtrate with ether in a separatory funnel, separate the bottom layer, neturalize this with a 1/10th Normal solution of sodium hydroxide in water, and extract it with chloroform. Dry the chloroform layer in a desiccator over anhydrous sodium sluphate. Concentrate by evaporation. On addition of petroleum ehter, crystals of 4-methoxy dimethyltryptamine will be obtained. This is the final product of phase 9 of the synthesis and may be used in this form or converted to the 4-hydroxy dimethyltryptamine (psilocin) by proceeding with phase 10.

Before proceeding with the conversion to psilocin (phase 10) the remaining liquid from the ether extraction (phase 9) can be chromotographed on an alumina column using benzene/methanol in a ratio of 99.8/0.2 and in this way a further yield of the 4-methoxy DMT will be obtained.

PHASE 10: Dissolve the 4-methoxy DMT crystals in an excess of hydriodic acid solution and warm it until methyl iodide cease to evolve.

Make the solution basic with ammonium hydroxide and extract with ether.

Evaporate the ether extract and recrystallize with petroleum ether to obtain the dry crystals of pure 4-hydroxy DMT (psilocin). Psilocybin is difficult to synthesize and is converted in vivo (in the body) to psilocin before absorption. Therefore, the synthesis of psilocybin would be without purpose except for experimental purposes.

PUBLISHERS NOTE: The synthesis of psilocin is lengthy, difficult and dangerous. It is assumed the persons requesting this synthesis are, in essence, seeking only to partake of the mystical experience specific to the ingestion of psilocin or psilocybin. The publishers, therefore, disclaim responsibility for any damage or injury incurred from the imporper handling of the chemicals or techniques described

in the synthesis and urge all persons interested in the psilocybe experience to avail themselves of the culture and extraction process for the Psilocybe mushroom.

Synthesis of Mescaline

(3,4,5-Trimethoxy Phenethylamine)

This synthesis utilizes readily obtained materials and gives a high yield of the stable end-product; mescaline hemi-sulphate dihydrate crystal - ready for capsulation and ingestion.

PHASE 1: Dissolve 80 grams of sodium hydroxide in 500 milliliters of ice cold water, using a 1000 milliliter roundbottom flask.

Add 1 gram of sodium sulphate, tightly stopper the flask and stir for 10 minutes using a magnetic stirrer.

Rapidly add 50 grams of 3,4,5-trihydroxy benzoic acid (gallic acid), re-stopper quickly and continue stirring until all the acid is dissolved.

Add 89 grams of dimethyl sulphate and stir for 20 minutes. Using a cold water bath to keep the temperature below 35°C. Raise the stopper every few minutes to prevent pressure from building up. Do Not Breathe Fumes! Avoid contact with skin or eyes!

Add another 89 grams of dimethyl sulphate and stir for 10 minutes. The temperature should rise to between 40° and 45°C. during the addition. If it does not, a delayed reaction will occur during the next step and extra precaution should be taken to prevent a too rapid rise in temperature by using an ice bath and protecting eyes and skin.

Fit the flask with a reflux condenser and bring the temperature up very slowly until a slow boil is produced. Boil for two hours.

Prepare a solution of 20% sodium hydroxide in 30 milliliters of water, add this to the mixture and boil for another two hours.

Cool the mixture to room temperature and acidify with dilute hydrochloric acid.

Filter the mixture with suction and wash the crystals with cold water. Yield should be about 50 grams of 3,4,5-trimethoxy benzoic acid.

PHASE 2: Prepare a solution of 100 grams of the trimethoxy benzoic acid, 20 grams of sodium hydroxide, 55 grams of sodium carbonate, and 300 milliliters of dimethyl sulphate to the mix over the course of 20 minutes, while stirring.

Attach an open condenser and reflux for 30 minutes, then let it cool. Upon cooling, crude methyl ester of 3,4,5-trimethoxy benzoic acid will precipitate. Filter the mixture with suction, dissolve the ester in the minimum amount of methanol and treat it with Norite.

Acidify the filtrate with dilute hydrochloric acid in order to recover unreacted starting material. (about 38 grams.)

PHASE 3: Prepare a suspension of 4.6 grams of lithium aluminum hydride in 200 milliliters of anhydrous ether.

Prepare a solution of 22.6 grams of the methyl ester of trimethoxy benzoic acid in 300 milliliters of dry ether.

Add the solution to the suspension slowly, over the course of at least 30 minutes.

Chill the suspension/solution mixture in an ice bath and add 50 milliliters of ice water very slowly, keeping the temperature down.

Decant the ether portion from the mixture, then add 250 milliliters of ice-cold 10% sulfuric acid.

Extract the product with 150 milliliters of ether. Combine the ether extracts, dry them over sodium sulphate, and evaporate the ether.

Distill the residue (boiling point 135°-137°C.) at 0.25 millimeters pressure. This should yield about 15 grams of 3,4,5-trimethoxy benzyl alcohol.

PHASE 4: Mix together 25 grams of the trimethoxy benzyl alcohol and 125 milliliters of concentrated hydrochloric acid. Shake this vigorously until solution is complete.

After a few minutes, the solution will become turbid and a gummy substance will precipitate. Let it sit for 4 hours, then add 100 milliliters of ice-water, pour off the water layer and extract it with three 50 milliliter portions of benzene.

Dissolve the gummy organic residue in the combined benzene extracts.

Wash the benzene solution with water and dry it over sodium sulphate.

Transfer the benzene solution to a distillation

flask and remove the benzene under reduced pressure. A red semi-solid residue will be left.

Suspend the residue in a small amount of ice-cold ether and filter throught a chilled funnel. Crystallized 3,4,5-trimethoxy benzyl chloride is thus obtained and may be purified by recrystallization from benzene.

PHASE 5: Prepare 500 milliliters of 60% ethanol/ 40% water solution, and add 100 grams of the trimethoxy benzyl chloride.

Add 80 grams of hexamethylenetetramine to the mixture. This chemical can be prepared by adding an excess amount of concentrated ammonia to a solution of formalin and then evaporating the solution. The solid material that remains is hexamethylenetetramine.

Reflux the mixture for one hour, then extract with ether. Evaporate the ether extract to obtain the 3,4,5-trimethoxy benzaldehyde. Yield should be about 70 grams.

PHASE 6: Prepare a solution of 100 grams of the trimethoxy benzaldehyde in 200 milliliters of ethanol. Chill in an ice bath to 0°C. Stir mechanically.

Add 40 milliliters of nitromethane. Keep temperature at 0°C. Continue stirring.

Prepare a mixture of 45 grams of potassium hydroxide (reagent grade) in 45 millilters of water and 90 millilters of methanol.

Place the potassium hydroxide/water/methanol mixture in a dropping funnel over the benzaldehyde/ ethanol solution and add dropwise at the rate of about one drop per second. Keep the temperature at 0°C. Keep extra ice on hand.

Pour the reaction mixture into the acid/ice very slowly, taking care to maintain a temperature of -10°C. Add ice if needed.

Pour the mix through a filter and wash the solid material in the filter with water.

Dissolve the solid material in 700 milliliters of ethanol and evaporate to obtain the pure crystals of 3,4,5-trimethoxy nitrostyrene. Yield should be about 78 grams.

PHASE 7: Place 1000 milliliters of anhydrous ether in a 2000 milliliter roundbottom flask and carefully add 57 grams of litium aluminum hydride while stirring vigorously with a magnetic stirrer. Take care that the ether and equipment are absolutely dry. Use a face shield and fireproof clothing for safety.

Place 72 grams of the trimethoxy nitrostyrene in the thimble of a Soxhlet extractor and attach the extractor to the flask with a condenser above it.

Heat the flask until the ether begins to boil gently and the extractor starts cycling.

Attach a cold trap and a drying tube from the top of the condenser to stop any ether loss and hydration.

Continue refluxing for 60 hours, watching to see that the extractor continues to recycle properly. This operation may be stopped and recommenced at any time but caution must be used to insure that everything remains free from water vapor.

After 60 hours of reflux the reduction should be complete. Cool the flask in an ice bath to a temperature of 0°C.

Remove the extractor. Slowly and cautiously add small chips of ice to the mixture by dropping them through the condenser until the reaction stops.

Allow the mixture to sit for 2 hours, then add 500 milliliters of a 10% sodium hydroxide solution in water.

Separate the ether fraction and extract it 3 times with 300 milliliters of benzene.

Combine the benzene extracts and titrate with a 2 Normal solution of sulfuric acid in water while stirring magnetically.

When pH 7 is reached, decant the solvent and evaporate, then add the solid material to water, bring to a boil, continue boiling until evaporation is complete. The material remaining is mescaline hemisulfate di-hydrate crystal. The yield should be about 65 grams. This is the stable end-produce of the synthesis, ready for capsulation and ingestion.

PUBLISHERS NOTE: The chemicals and reactions described above are potentially dangerous even to

an organic chemist in a well-equipped laboratory. For the layman to attempt these procedures without first thoroughly preparing himself is to invite almost certain disaster. The publishers therefore disclaim responsibility for any damage or injury resulting from the improper handling of the chemicals or techniques hereinabove described, and strongly urge all persons who wish to obtain the product of this synthesis but are unable to secure the chemicals or cannot perform the reactions to use instead the easier, safer peyote culture and mescaline extraction process.

Synthesis of Methamphetamine

This process is a complete laboratory guide to making meth crystal. It uses non-restricted chemicals, unlike most speed formulas, and includes illustrations of the complete lab set-up, a list of all the supplies with exact sizes, amounts and all other info needed to purchase what is required. The instructions are explicitly detailed and are easy to follow. Additional explanatory notes are also included where appropriate.

Set up the reaction flask as shown in figure #5. The nitrogen is turned on and the system is flushed.

Add to the flask 16.2 grams of magnesium turnings and 66.6 milliliters of anhydrous ether.

Next is added a small crystal of iodine and 25 ml of a solution of 84.3 ml of benzyl chloride dissolved in 333.3 ml of anhydrous ether.

This is left for 30 minutes to let the reaction start.

The iodine color will disappear when the reaction starts. If it does not start within 30 minutes the flask is partially immersed in water heated to 104°F.

As soon as the reaction starts, the remainder of the benzyl chloride solution is added during the course of 30 minutes.

The stirrer is started as soon as the benzyl chloride is added.

The reaction temperature is regulated by keeping the greater part of the reaction flask immersed in ice water.

The reaction will continue for about 15 minutes after all the benzyl chloride solution has been added. After this the reaction flask is refluxed for 15 minutes.

The is done by simply heating the reaction flask with an electric hot plate so that there is a gentle boiling in the flask.

After this has been completed, 44 grams of acetaldehyde is dropped slowly into the reaction flask.

This is done with constant stirring.

The temperature rises and is kept there (at 50°C.) for 2 hours.

After this is completed, the methylation part of the synthesis set up according to figure #6.

Approximately 200 ml of 40% methylamine in water is added to the 500 ml reaction flask. This is slowly heated and not allowed to rise above 150°F.

The bottom condenser is cooled with methanol, which is cooled with dry ice.

The gaseous methylamine is bubbled through the 1000 ml flask for three hours.

An exothermic reaction takes place during this time.

This is allowed to cool slowly and then extracted with ether and the extracts allowed to evaporate.

The residue is methamphetamine base which must be converted to the hydrochloride salt.

The methamphetamine is dissolved into 200 ml of dry ether and dry hydrogen chloride gas is bubbled through the solution until the precipitate is no longer formed.

The precipitate is removed by suction filtration and recrystallized from dry ether to obtain the pure product.

PUBLISHERS NOTE:

The chemicals and techniques described herein are potentially dangerous and it is recommended that the physical and chemical properties of the reagents used and the techniques employed in this synthesis be given further study by those persons unfamiliar with them before the synthesis is attempted.

The Reaction Sequence

$C_6H_5CH_2C1 + Mg$ ------ $C_6H_5CH_2MgC1 + CH_3CHO$-

$C_6H_5CH_2CH(OMgC1)CH_3 + CH_3NH_2$------

$C_6H_5CH_2 - CH - CH_3 + HC1$------

$-CH$

NH

CH_3

Glassware and Equipment, etc.

One 125 ml Separatory funnel with a 24/40 $ joint
One 1000 ml 3-neck, 24/40, 34/40, 24/40 $ joint round-bottom flask.
One mercury-sealed stirrer with a nitrogen inlet.
One Pyrex stirring rod.
One 50-5000 rpm stirring motor.
One Allin condenser with a 34/40 $ joint.
One calcium chloride drying tube.
One 500 ml, 2-neck, 24/40, 34/40 $ joint round-bottom flask.
One 24/40, 24/40 $ joint condenser
One 34/40 to 24/40 $ joint Pyrex adapter.
Rubber stoppers to fit the reaction flasks.
Six feet of small, glass tubing.
Two feet of rubber tubing for the various connections.
One electric hotplate.
One large ringstand.

Chemicals

200 ml of 40% methylamine in water.
Hydrochloric acid for HC1 reaction.
Table salt for HC1 reaction.
One pint of methanol for condenser cooling.
One tank of commercial nitrogen.
Calcium chloride for the drying tube.
84.3 ml of benzyl chloride.
16.2 grams of magnesium turnings.
Two lbs. of anhydrous ether.
A small amount of crystalline iodine.
44 grams of acetaldehyde.

NOTE: The hydrogen chloride gas is produced by treating salt with HC1 acid. This is done in a small wash bottle and the gas is bubbled through sulfuric acid before it is bubbled through the methamphetamine solution.

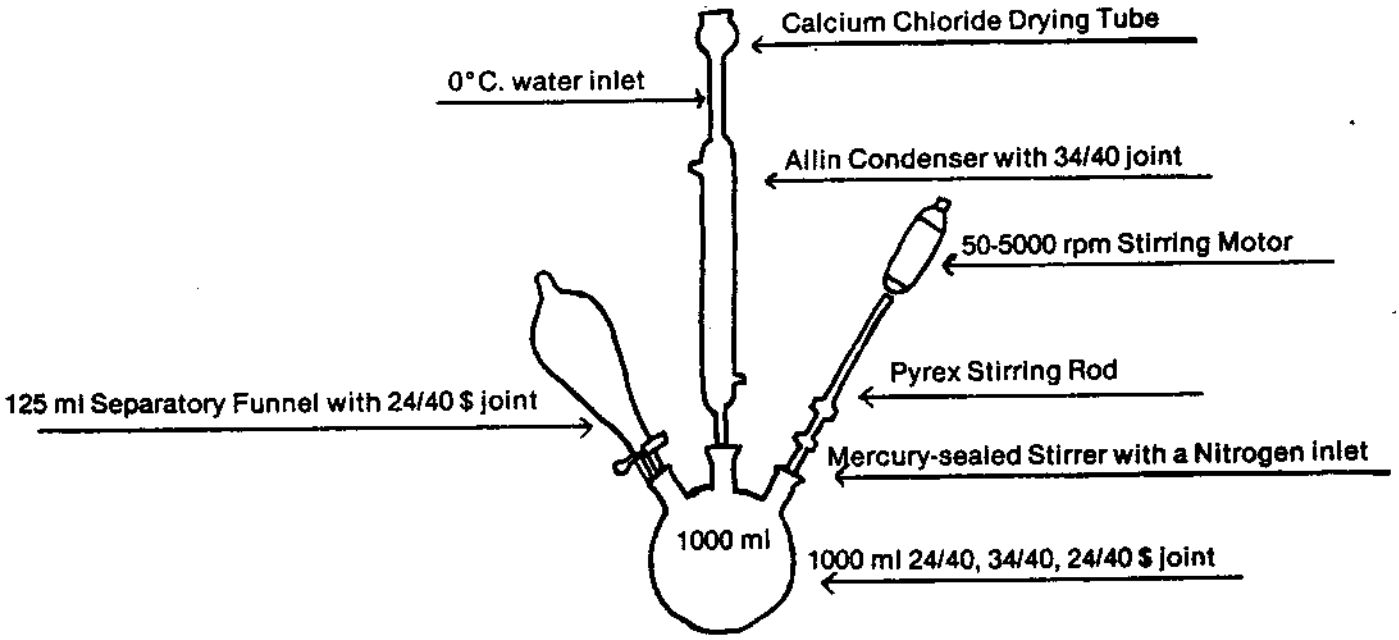


Figure 5

The Allen Condenser in Figure 5 is cooled with water cooled to 0°C with ice. Nitrogen is slowly added from a cylinder.

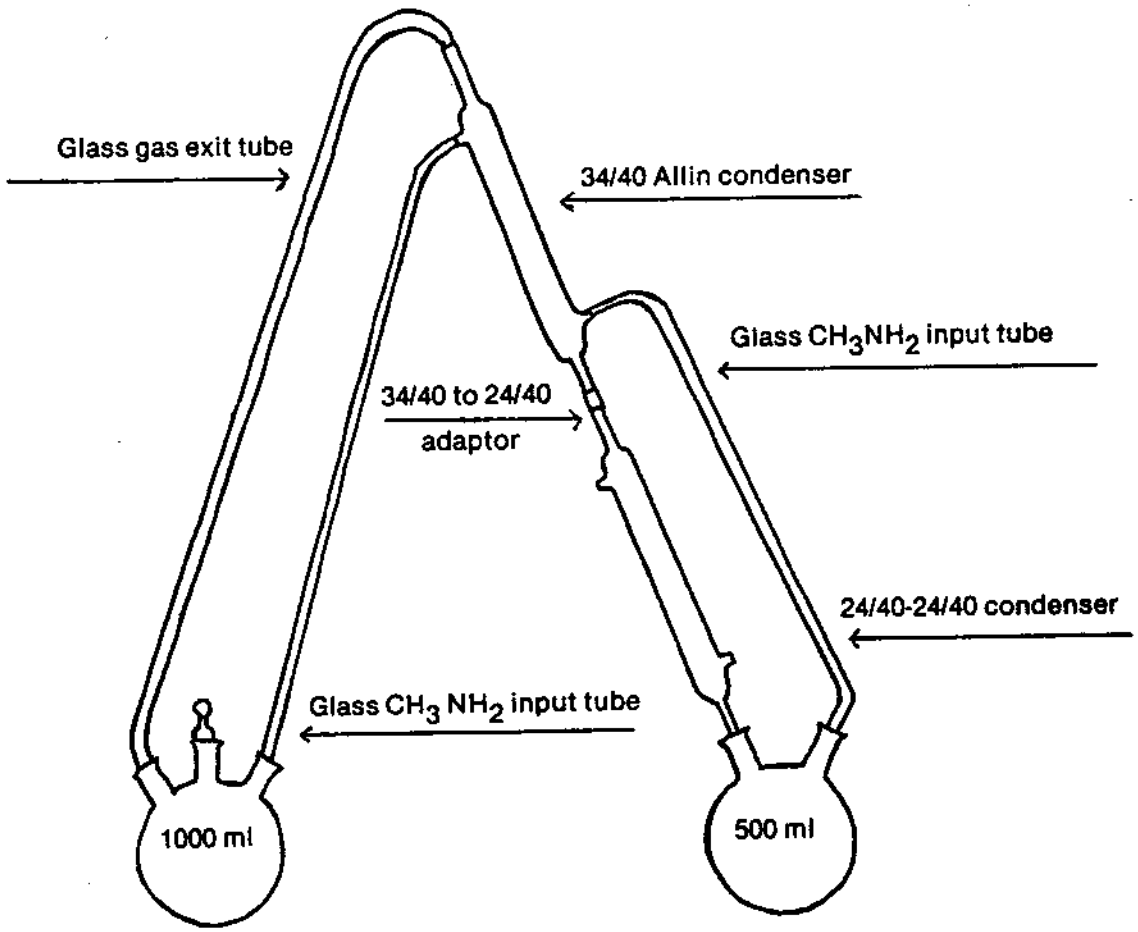


Figure 6

The bottom condenser in Figure 6 is cooled with methanol and dry ice.

Synthesis of Amyl Nitrite

Method I

Place some copper wire into a large, tabulated retort.

Add 10 fluid ounces of purified amyl alcohol, 1 fl. oz. of strong sulfuric acid and 1 fl. oz. of nitric acid previously diluted with an equal amount of water.

Heat slowly to 63°C. (145.4°F.). At this temperature the reaction will begin and continue until an amount about equal to double the quantity of nutric acid collects in the receiving vessel (a bottle or flask).

The chemical action will now stop and the temp., which will have risen to near 100°C., (212°F), will begin to fall.

Add more diluted nitric acid and continue the process.

Repeat the additions of nitric acid until the amyl alcohol is exhausted. (This will be known by the appearance of red fumes in the retort).

Wash the product with sodium hydroxide in order to remove hydrocyanic and other acids.

Rectify the product over potassium carbonate to remove the moisture.

The portion that distills over between 95° and 100°C. (203° and 212°F).

Difficulties may be experienced in rectifying amyl nitrite because of the number of products present having similar boiling points.

WARNING: If strong nitric acid is used instead of the diluted acid, an explosion is almost sure to occur.

PUBLISHERS NOTE: The chemicals and techniques described above are potentially hazardous. The publishers disclaim responsibility for any damage or injury resulting from the improper handling of the chemicals or techniques by unqualified persons.

A New Synthesis of Amyl Nitrite

Method II

Here's a modern, high yield process to Amy's (snappers, poppers, etc.) that is easy and gives a much higher yeild (about 75%). Add 3 chemicals to a flask, heat until boiling, collect the distillate (what boils over), re-distill, let it cool and you've got it! The chemicals used are common laboratory reagents and the flask and accessories are relatively inexpensive.

(1) 88 grams of isoamyl alcohol, 26 grams of boric anhydride and a small quantity of nitric acid are heated in a flask, which is equipped for simultaneous distillation, agitation and gradual addition of nitric acid from a dropping funnel, until the reaction starts (which usually occurs at a bath temperature of 123-126°C.)

(2) The heating bath is then removed, the reaction mixture is agitated, and 90 grams of 70% nitric acid are, gradually, added.

(3) The rate of addition of nitric acid is, approximately, the same as the rate at which the distillate comes off through the Liebig condenser which is attached to the flask.

(4) Once the reaction starts, no further heating is necessary as the reaction continues and the reaction products distill off without any outside heating.

(5) The distillate, after washing, drying and redistilling it should yield about 62 grams of pure isoamyl nitrite.

PUBLISHERS NOTE: The above procedure may need some elaboration for the non-chemist so here goes. In (1), you take a 250 ml., 3-neck flask, attach a Liebig condenser, a thistle tube and a thermometer, place in a pan filled with sand on a hot plate.

In (2) replace the sand bath with a vibrator or place the flask on a magnetic stirrer for agitation and add the nitric acid solution (70% in water) through the thistle tube.

In (3) look at the drops of distillate (amyl nitrite) dripping out of the condenser into a jar or beaker, and add the acid solution at the same rate.

In (4) you no longer have any source of heat under the mixture in the flask but the reaction continues as you add the acid. Make sure you don't add the acid too fast or the reaction will go too fast and mess up the whole place, and you might get burned.

In (5) don't worry about the washing (or drying and re-distilling for that matter) but if you want as pure a product as possible, place the condensate in a dessicator to remove the water content and then put it back in the flask and re-distill it. Personally I would not bother with this. I would stop after (4) and get zonked.

The best idea seems to be to get a bunch of plastic or glass snap-top bottles, stuff absorbent cotton in them, then fill with the amyl nitrite. Also, you can remove the contents of nasan inhalers and do a number with them for concerts, etc.

Well, in any case, GOOD LUCK, AND PLEASE BE CAREFUL!

Synthesis of Cocaine

Dissolve 71.4g furan in 1323 ml methylene chloride/dry methanol (50/50). Cool in dry-ice bath to −40° (never above −25°) pass 73.5 g dry chlorine gas into the mixture during the course of 60 minutes. Use calcium chloride drying tube to protect from moisture. Stir for 30 additional minutes. After this, while continuing to stir, pass in dry ammonia gas until the mixture is basified to pH 8. A precipitate will form. Filter precipitate. Wash precipitate with 3 50ml portions of methylene chloride. Evaporate combined filtrates to get about 92 g of 2,5-dimethoxy-2,5-dihydrofuran.

Into 315 ml dry ethanol containing 5.25 g Raney-nickel catalyst dissolve 49.8 g 2,5-dimethoxy-2,5-dihydrofuran. Connect a hydrogen source to the flask and under one atmosphere oxygen, while stirring magnetically, let reduction occur for several hours until 7560 ml hydrogen has been absorbed. Filter and wash catalyst with 15 ml ethanol. Evaporate filtrates with vacuum to get 42 g of 2,5 diethoxy-tetrahydrofuran.

Combine 360 g 50% potassium hydroxide and 138 ml methanol. Cool in an ice-bath to −5°C. While stirring add 70.5 g dimethyl beta ketoglutarate. Let temperature rise during next 30 minutes to 25°C. Let stand for 10 minutes at 25°C. Cool in ice-bath to 0°C. Add 60 ml ether prechilled to 0°C. Filter. Wash precipitate with 65 ml ethanol prechilled to 0°C. and again with 150 ml ether prechilled to 0°c. Dry filtrant with vacuum to get 75 g of material. Mark this material A.

Heat 322 ml 1 Normal hydrochloric acid to 80°C in a hot bath. Dissolve in this 41.1 g 2,5-diethoxytetrahydrofuran and stir for 20 minutes. Cool in ice-water bath to 10°C. Slowly add 211 ml 1 Normal hydrochloric acid. Maintaining temperature at 10°C., dissolve into this 98.2 g methylamine hydrochloride. Let solution rise to room temperature while stirring. Continue stirring for 4 hours after room temperature has been reached. Cool solution to 10°C in ice-water bath. Saturate with 410 g potassium hydroxide. Extract in a separatory funnel with four 75 ml portions of benzene. Stir or gently shake for 15 minutes with each portion before extracting. Evaporate combined benzene extracts in vacuum to get an oil from which precipitates tropan-3-one-2-carboxylic acid methyl ester (can be distilled at 85°/0.2mm).

Dissolve 28.3 g of this methyl ester in 170 ml 10% sulfuric acid. Cool the solution to −5°C. in an ice bath.

Treat with 3.63 k 1.5% sodium-mercury amalgum while stirring vigorously for 30 minutes with temperature t 0°C. and pH at 3.2. Adjust pH by adding drops of 30% sulfuric acid. After 30 minutes, test by adding 3 drops of reaction mixture to a 10% ferric chloride solution. If the drops no longer turn red, reaction is complete. If they do turn red, continue reaction and test again until they do not. Filter solution. Keeping solution below 15°C. dissolve in it 235 g potassium hydroxide. Extract in a separatory funnel with five 250 ml portions of chloroform. Evaporate extracts in a vacuum to get an oily substance. Let stand for 5 days at 0°C. A precipitate will form. Add to the oil and precipitate mixture an equal volume of cold, dry ether. Filter this. Wash with another similar volume of cold, dry ether. Add up to 250 ml dry ether or until no more precipitate forms. Filter.

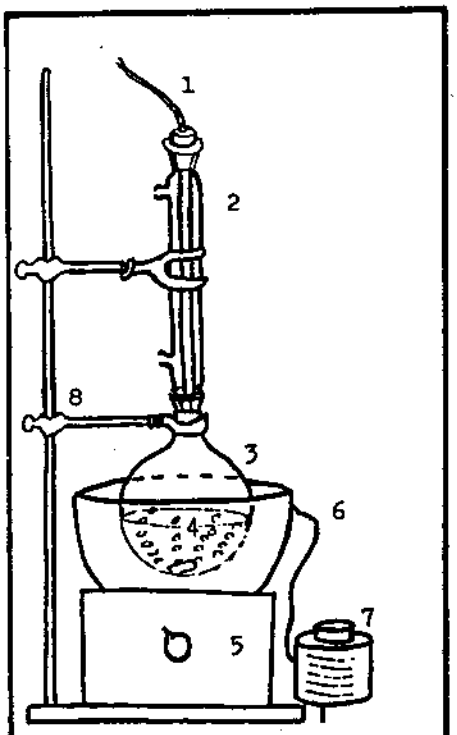
Stir filtrate with Norite for about 30 minutes. Filter out the Norite to get a brown liquid. Dissolve this in 17 ml methanol. Neutralize with 10% hydrochloric acid in dry ether. The mixture will separate into two layers. Evaporate the ether layer until only the other layer remains. Let this stand for 120 minutes at 0°C. Racemic Methyl Ecgonine will precipitate. Filter this. Wash filtrant with prechilled (0°C) methanol/ether (50/50). Dry filtrant in a vacuo (a vacuum) until it remains a constant weight. Mix 9.35g Methyl Ecgonine with 18.7g benzoyl chloride. Heat for 10 hours on a hot water bath. Dissolve the resultant liquid in 240 ml ether. Evaporate either in

vacuum. Pulverize the residue by rubbing. Dissolve this powder in 85 ml water, (ice water). Neutralize with 20% ammonium hydroxide solution (prechilled) to about 10°C.). Filter the solution. Wash filtrant in 12 ml ice water. Dry filtrant in dessicator over calcium chloride. The product is pure cocaine base. This must be converted to the hydrochloride salt for use by injection, nasal inhalation, etc.

Conversion to the hydrochloride salt proceeds as follows:

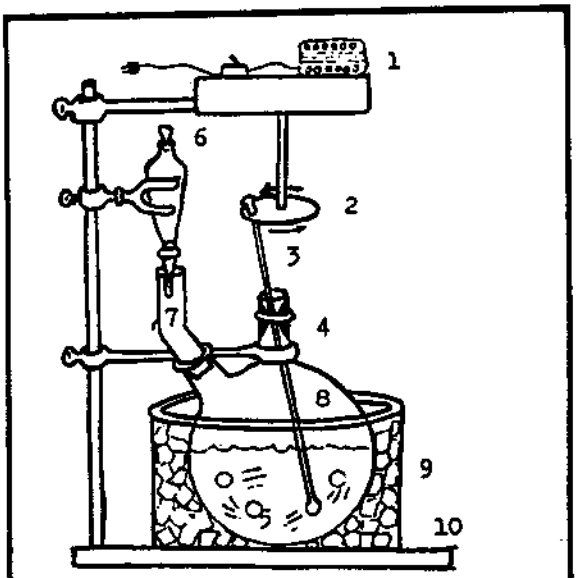
Dissolve the cocaine in 7 times its weight in ether. Add 30% hydrochloric acid in ethanol in tiny portions until precipitation occurs and then ceases. Filter and wash precipitate once with methanol/ ether (75/25) and once more with ether. Evaporate ether from filtrant in desiccator. The produce is pure cocaine hydrochloride.

PUBLISHERS NOTE: The synthesis of cocaine is lengthy, difficult and dangerous to persons unversed in Organic Laboratory Technique. The publisher recommends that a thorough study of the chemicals used and the techniques employed herein is first undertaken to assure that no harm come to the aspiring chemist.



1. 100-500 RPM sparkless motor
2. Eccentric stirrer driver
3. Paddle Bladed stirring rod
4. Polyethelene stopper
5. Weighted coated stir-balls
6. Dropping funnel (separatory)
7. 150° bent tube
8. 100ml 2 neck RB flask
9. Ice bath
10. Ring stand and clamps

Figure 7



1. Ether vent to outside
2. Condenser
3. 1000ml RB flask
4. Magnetic stir-bar
5. Magnetic stirrer
6. Heating mantle
7. Variac (6&7 replaced by ice-bath in last part)
8. Ring stand and clamps

Figure 8

Synthesis of Dimethyltryptamine
(DMT)

This unique process utilizes ether as the solvent, eliminating the need for tetrahydrofuran which may be unobtainable to the average person. It employs superior techniques which result in a greater yield of DMT of the purity needed for crystallization.

Place a 1000 milliliter roundbottom, two-neck, flask in an ice bath.

Set up a wobble stirrer with a sparkless motor and a small separatory funnel. (Figure 7)

Add 400 milliliters of cold anhydrous ether to the flask. Add 60 grams of indole through the funnel while stirring until dissolution is complete.

Mix 100 milliliters of anhydrous ether and 50 grams of oxalyl chloride in the separatory funnel and add dropwise while sitrring vigorously over a period of at least 15 minutes.

Continue stirring for 10 minutes after the addition is complete. Temperature must be 0°C. The fumes of Oxalyl Chloride ARE POISONOUS! Good ventilation or a fume hood is necessary.

After stirring, let the mixture sit until the solid material (indole oxalyl chloride) settles, then pour off the liquid portion and discard.

Add fresh anhydrous ether, shake well, let it settle, pour off the liquid portion and discard.

Add fresh anhydrous ether, shake well, let it settle, pour off and discard again. Yield should be about 100 grams. If less, adjust the portions in the remaining steps to the actual yield.

Cool the flask containing the indole oxalyl chloride to −10°C. by using salt and ice. Moisture decomposes this substance. Proceed as fast as possible.

Add 400 milliliters of ice-cold anhydrous ether to 100 grams of the indole oxalyl chloride percipitate.

Cool two 50 grams containers of dimethylamine to −10°C. Chill a flask with ground glass stopper to the same temp. and add 3 volumes of cold anhydrous ether to 1 volume of dimethylamine, dissolving the dimethylamine in the ether and adding measured quantities until the dimethylamine containers are empty.

Dimethylamine/ether solution may be stored in this flask if low temperatures are maintained.

Add the dimethylamine/ether solution to the funnel and add dropwise to the mixture (indole oxalyl chloride) in the reaction flask while stirring vigorously with the wobble stirrer until the addition is complete.

Continue stirring for ½ hour after the addition and after removing the ice bath until the reaction mixture rises to room temperature.

Discontinue stirring and allow the solid material to precipitate. Pour off the liquid portion and discard. The solid material remaining is indole glyoxal amide.

Vacuum filter the indole glyoxal amide and wash with ether.

Mix a slurry of the amide with ether and distilled water and filter again.

Dissolve this in a 50/50 methanol/benzene mixture and recrystallize.

Make some molds by wrapping aluminum foil around a pencil, melt the indole glyoxal amide crystal and cast it into sticks using these molds. Place the two-neck flask in a heating mantle, stopper on neck, place a straight condenser in the other. Use a ring stand for support. Place a cork and rubber vent tube in the upper end. Place a magnetic stirrer under the mantle and put the stirring bar in the flask. Figure (8).

Make certain the flask and condenser are completely dry and add 300 milliliters of anhydrous ether. Stir in 15 grams of lithium aluminum hydride.

While stirring continues, slowly add the sticks of indole glyoxal amide by dropping them through the condenser. Keep an eye on the reaction rate or a dangerous boilover will occur. Use a suitable face shield and rubber gloves at all times when handling lithium aluminum hydride. Do not handle on a damp day — a dry atmosphere is necessary. After a total of 20 grams of the indole r lyoxal amide has been added, continue the sitrring and using a variac or other suitable control for the mantle, increase heat to the reflux temperature. Reflux for 90 minutes.

Cool in an ice bath to 0°C. Very cautiously add

small chips of ice or ice-cold methanol/water solution through the condenser until the mixture is completely hydrolized and there is no further reaction. This reaction is very hazardous. The temperature should not rise above 5°C. Use the magnetic stirrer and wait after each ice or methanol/water addition until no sign of reaction can be seen.

When hydrolysis is complete, add 5-10 milliliters of water and let the mixture sit for at least 3 hours, stirring occasionally by swirling the mixture in the flask manually. After sitting for 3 hours, allow the mix to settle, pour off the clean portion of the liquid and evaporate. Filter the residue in a suction filter and wash by pouring a mixture of ether and methanol through it. Do this several times until no change can be seen in the extract after washing.

Combine the extracts and evaporate. Spread the extract on a piece of clean glass and hope that it will crystallize. This may take 2-3 weeks and then it may not crystallize at all. If seed crystals can be obtained, however, they can be used to catalyze the crystallization of the DMT. In any case, the residue extract is the final products and can be mixed with suitable vegetable matter and smoked. Cigarettes may be dipped in it and allowed to dry and then smoked.

If purification is desired, however, proceed as follows: After the hydrolysis with ice or methanol is complete, add to the mixture 500 milliliters of a saturated solution of sodium sulphate in water, stir well and filter. Wash several times with ether and neutralize the filtrate with a 1/10th Normal (0.1 N) solution of hydrochloric acid in water. Always use distilled water. Extract the filtrate with ether in a separatory funnel, separate the bottom layer, neutralize this with 1 1/10th Normal solution of sodium hydroxide in water, and extract it with chloroform. Dry the chloroform layer in a dessicate over anhydrous sodium sulphate. Concentrate by evaporation. On addition of petroleum ether, crystals of pure DMT should be obtained. The remaining liquid from the first ether extraction of this purification process can be chromographed on an alumina column using benzene/methanol in a ration of 99.8/0.2 and in this way a further yield of pure DMT will be obtained. This purification process is the easiest way to get the necessary seed crystals for further crystallization.

PUBLISHERS NOTE: The chemicals and reactions described above are potentially dangerous even to an organic chemist in a well-equipped laboratory. The publishers therefore disclaim responsibility for any damage or injury resulting from the imporper handling of the chemicals and techniques by unqualified persons.

Synthesis of TMA

(3,4,5-Trimethoxyamphetamine)

This compound is closely related to mescaline and is 2.2 times more powerful. It can be made from the same starting materials as in the mescaline process and results in a high yield (83%) of pure crystal TMA, (3,4,5-trimethoxyamphetamine).

STEP I:

The condensation of 3,4,5-trimethoxybenzaldehyde and nitro-ethane to yield 3,4,5-trimethoxynitropropene.

Dissolve 39.25 grams (0.2 moles) of 3,4,5-trimethoxbenzaldehyde into 125 milliliters of methanol and add 15 milliliters of nitroethane.

Dissolve 10 grams of sodium hydroxide in 20 milliliters of water and chill.

Chill the methanol solution to 10°C. in an ice bath and add the water solution dropwise in a period of 30 minutes, keeping the temperature below 15°C. by means of the ice bath and continuous stirring.

Continue stirring for a further 30 minutes until a white precipitate has formed.

Add 250 ml of water to redissolve the precipitate.
Add 250 ml of concentrated hydrochloric acid to 500 ml of water.

Add the reaction mixture to the acid/water solution while stirring. The yellow, crystalline 3,4,5-trimethoxynitropropene forms immediately.

Collect the product by filtration and purify it by recrystallization from methanol. The yield should be about 30 grams (75%).

STEP 2:

Reduction of the Trimethoxynitropropene to yield 3,4,5-trimethoxyamphetamine.

Place 5.5 grams of the trimethoxynitropropene in a Soxhlet extractor and very slowly extract this into a suspension of 5.3 grams of Lithium Aluminum Hydride in 250 ml of anhydrous ether while stirring constantly. This procedure may take as much as 60 hours to complete but the process can be halted and resumed whenever convenient.

When the extraction is complete, cool the flask to 10°C.

Prepare a 1.5 Normal solution of sulfuric acid in water.

Add this solution to the flask dropwise while stirring continuously, taking care that the temperature does rise.

Add 55 grams of solid potassium sodium tartrate, stirring until dissolved.

Add a solution of 25% sodium hydroxide in water until the reaction mixture is distinctly alkaline.

Extract the mixture with methylene chloride of chloroform, evaporate the solvent and dissolve the residue in ether.

Saturate the ether solution with hydrogen chloride gas. The 3,4,5-TMA precipates immediately.

Collect the precipitate by filtration, wash it 2 times with cold ether, and purify it by recrystallizing twice from Isopropanol. The yield should be about 4.5 grams (92%).

PUBLISHERS NOTE: The chemicals and techniques described above are potentially hazardous. Consult the reference courses given and/or any others that may be available before attempting to proceed with the reactions. The publishers disclaim responsibility for any damage or injury resulting from the improper handling of the chemicals or techniques by unqualified persons.

NOTES

Synthesis of STP

PHASE I

Mix 5.4 g of 2,5-dimethoxy-p-tolualdehyde, 2,5 g ammonium acetate, 25 ml nitroethane and 25 ml benzene in a flask fitted with a reflux condenser and a Dean-Stark tube to remove water content. Reflux for 20 hours. Cool the mixture and wash with two 25 ml portions of water, wash again with two 25 ml portions of saturated sodium sulfate, then again with two 25 ml portions of water.

Dry the mixture in a desiccator to remove water content and evaporate in a vacuum to remove the benzene.

The residue is 1-(2,5-dimethoxy-4-methylphenyl)-2-nitropropene.

Phase 2

Fit a 3000 ml flask with a Soxhlet extractor, add 1500 ml of anhydrous ether to the flask and carefully dissolve into this 20 g of lithium aluminum hydride.

Load 23.7 g of the phenylnitroprepene into 33x80 mm Soxhlet thimbles and dissolve into the mixture while refluxing.

CAUTION!! Do it slowly! Reflux for a further 12 hours, then cool the mixture to 0°C. in an ice bath.

Add 1000 ml 1.5 Normal sulfuric acid solution to the mixture, slowly while stirring. CAUTION! This is where the actual reduction reaction occurs and it is imperative that the water/acid solution is prechilled to 0°c. also, and that the temp. of the reaction mixture is maintained at 0° throughout the reaction. Add the water/acid to the mixture dropwise and stop if the temp. rises above 5°C., while continuing to stir, until the temp. again drops to 0°C.

The reaction mixture will separate into distinct water and ether layers upon addition of the water/acid. When the reaction is complete, add water to equalize the layers, allow the temperature to rise to room temp., transfer the mixture to a separatory funnel, shake and allow it to settle.

Separate and discard the ether layer, add 200 ml ether, shake and separate again, discarding the ether layer.

Dissolve 450 g potassium sodium tartrate in the water layer.

Add saturated sodium hydroxide solution to make the mixture basic, testing with pH paper until pH 12-14 is reached.

Extract with three 150 ml portions of methylene chloride, combine the extracts and evaporate on a steam bath. An oily residue remains. This is the impure product.

Dissolve the residue in ether saturated with dry hydrogen chloride gas to form a crystalline precipitate.

Filter the mixture through a Buchner funnel and wash with several portions of dry ether.

Dry the filtrant with suction, allow to dry thoroughly and recrystallize from isopropanol/ether (50/50). This is the final product of the synthesis — 2,5-dimethoxy-4-methyl amphetamine, commonly known as STP, also as DOM. The pure crystals melt at between 189° and 189.5°C.

PUBLISHERS NOTE: The chemicals and techniques described herein are potentially dangerous. It is highly recommended that the chemical and physical properties of the reagents used and the reactions employed in this synthesis be given further study by those persons unfamiliar with them before synthesis is attempted. Especially, be careful when doing a reduction reaction with lithium aluminum hydride. This is the voice of exper-

ience speaking. Do it right as described above in the cautionary note and you shouldn't have any regrets.

Synthesis of MDA

3,4-Methylenedioxymethylamphetamine

Method I

A very concise working formula to make the "love drug." It is designed to use the same lab set-up as the process for methamphetamine and results in a high yield of pure crystalline MDA (3,4-methylenedioxyamphetamine).

Dissolve 40 g of Piperonyl alcohol in 300 ml of anhydrous ether and add 3 ml. of pyridine. Add in 20 ml portions, with stirring, a solution of 60 g thionyl chloride in 100 ml anhydrous ether. (The solution will heat somewhat, and gases will be evolved — work under a hood.) Stir the solution for 30 minutes and then wash with four 100 ml portions of ice water. Distill of the ether, preferably under reduced pressure, and recrystallize the residue from high-boiling petroleum ether (90-100°C). Yield is about 40 g of 3,4,-methylenedioxyphenylchloride (90%).

In a dry 3-1 flask fitted with a mercury sealed stirrer, a 500 cc dropping funnel, and a condenser provided at its upper end with a calcium chloride drying tube, is placed 8 grams of magnesium turnings. There is then added 30 ml of dry ether, a small crystal of iodine, and about 10 ml of a solution of 40 g piperonyl chloride from above, in 150 ml of ether. The reaction is allowed to start, which takes 15-30 minutes. The iodine color will disappear. The stirrer is started with the remainder of the Piperonyl chloride solution is added with gently reflux action. The reaction is complete. After this, reflux for about 15 minutes. The product is now 3.4-methylenedioxyphenylmagnesiumchloride — $3,4CH_2o2C_6H_5CH_2$ MgC1.

To the above product is added 22 g of acetaldehyde. The temperature rises to 50°C. and is kept there for two hours. The formula is now $3.4.-CH_2$ $o_2C_6H_5CH_2(OM_gC1)CH_3$. The above magnesium aloxide is then treated with gaseous methylamine for three hours. The reaction mixture is allowed to cool slowly and, extracted with ether, the extracts are evaporated and the desired product is obtained as a residue.

$3,4-CH_20_2C_6H_5CH_2CH\text{-}Ch_3$
NH
CH_3

This residue is dissolved in ether (150 ml) and treated with dry hydrogen chloride. The crystalline product is washed with ether and dried in the air.

Method II

This synthesis is somewhat easier to do and uses chemicals that may be more readily available. In addition, the process is completed in only two steps with a minimum of equipment and lists alternate equipment and chemicals which may be used depending on what is most easily obtained in a particular area. The procedure results in an extremely high yield (92%) of crystal MDA.

STEP 1

Dissolve 30 g of piperonal in 125 ml of methanol in a 500 ml flask.

Add 15 ml of nitroethane.

Chill the solution in an ice bath and add a cold solution (15°C.) of 10 g sodium hydroxide in 20 ml water — dropwise over a period of 30 minutes.

Stir for 30 minutes until a whate precipitate forms.

Dissolve this precipitate by adding 250 ml of water.

Add the resulting solution dropwise to a solution of 250 ml concentrated hydrochloric acid in 500 ml of water.

A bright yellow produce will precipitate.

Pour the solution through a paper filter to collect the precipitate.

Discard the liquid. The yield should be 28-30 g (75%) of 3,4-methylenedioxyphenylnitropropene.

STEP 2

Place the product of Step 1 in a Soxhlet extractor and extract it into 5.3 g of lithium aluminum hydride in 250 ml of anhydrous ether.

This procedure may take up to 60 hours.

When the reaction is complete, cool the flask and add dropwise 300 ml of ice-cold 1.5 Normal sulfuric acid while stirring.

Add 55 g of solid potassium sodium tartrate, stirring until disolved, then add enough 25% sodium hydroxide solution to make the solution distinctly alkaline.

Extract this with methylene chloride or chloroform.

Evaporate the solvent and dissolve the residue in ether.

Saturate the ether solution with hydrogen chloride gas.

The crude product should precipitate immediately.

Collect this and wash with cold ether.

Recrystallize the product from isopropyl alcohol.

Yield should be 4.5 g of 3,4-methylenedioxyamphetamine.

PUBLISHERS NOTE: The chemicals and techniques described herein are potentially hazardous. It is highly recommended that the physical and chemical properties of the reagents used and reactions employed be given further study by those persons unfamiliar with them before synthesis is attempted.

Synthesis of Heroin

Method I

To obtain as pure a starting material as possible, a 23.1 gram sample of morphine hydrate is prepared by recrystallization of 25 grams of commercially produced morphine hydrate from 200 cc of aqueous methanol. 23 grams of the recrystallized material is dissolved in 100 cc. of acetic anhydride and heated with refluxing for 20 hours, to quantitatively convert the morphine to diacetyl morphine, or heroin. At the end of the reflux period, acetic anhydride and acetic acid are vacuum distilled from the mixture leaving a heavy colored oil containing both heroin and heroin acetate. To obtain all of this material as free heroin, the following procedure is followed. The oil is dissolved in an excess of ethyl acetate, warmed gently, and decolorized using a highly absorptive activated carbon (Norit) as a decolorizing agent. The decolorizing solution is evaporated on a steam bath to a volume of 50 cc and then placed overnight in a cold room, whereupon heroin will solidify from this solution. Then separate the Heroin from the separated solution by filtration.

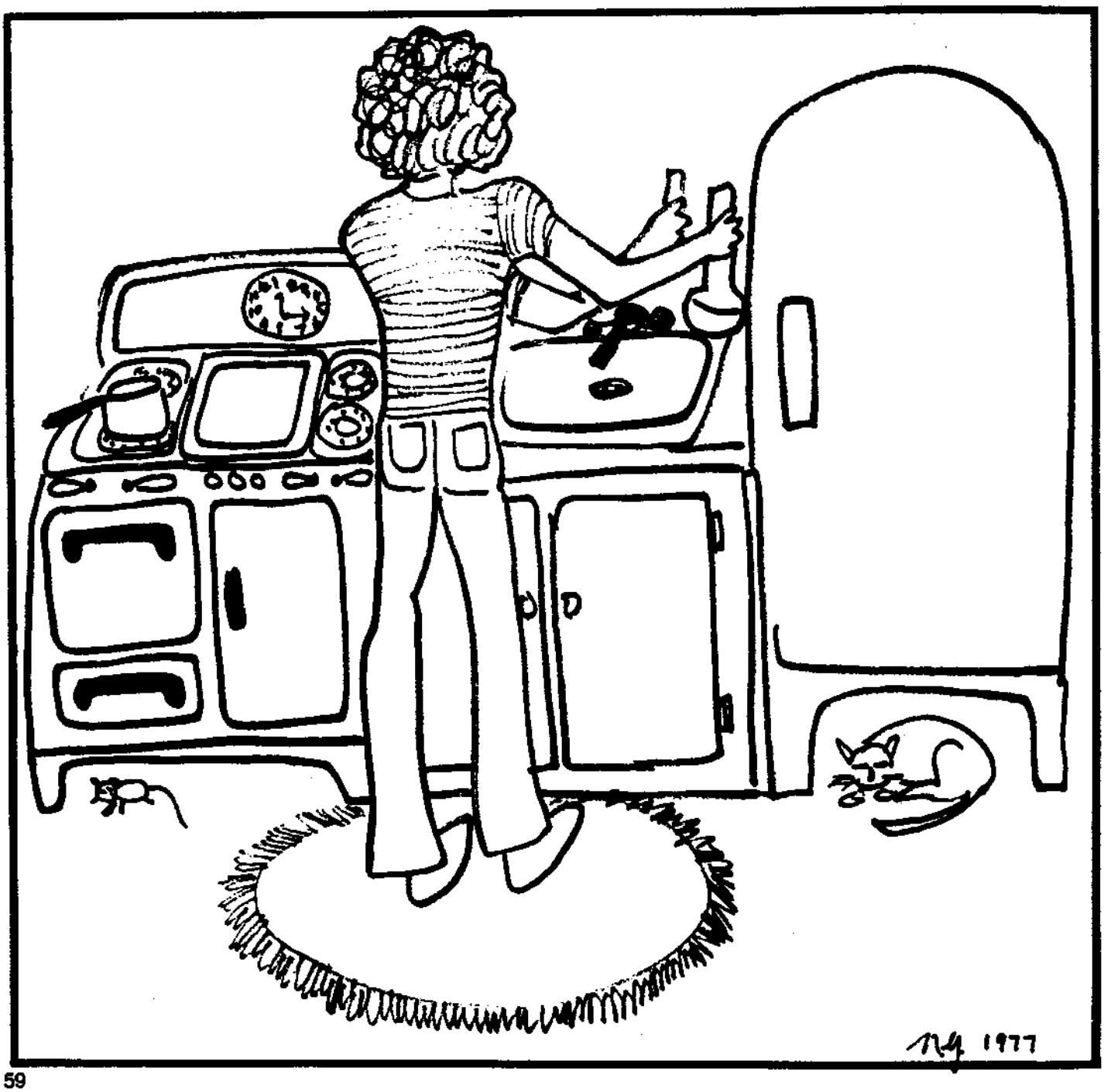
Method II

One gram of recrystallized morphine is dissolved in 2.5 cc of actic anhydride and heated with refluxing for 20 hours, thus producing heroin. Excess reagents are removed by vacuum distillation and the residue, containing both heroin and heroin acetate, is dissolved in 20 cc of benzene. This solution is extracted with three 10 cc portions of 0.5 M sodium carbonate solution in order to convert all heroin acetate to free heroin. Following extraction, the benzene solution is washed twice with 10 cc of water, then dried over anhydrous sodium sulfate, filtered and evaporated to dryness, thereby isolating Heroin.

IF YOU HAVE TO DO IT.
SNORT IT, DON'T SHOOT IT.
SNORT IT DON'T SHOOT IT.
SNORT IT, DON'T SHOOT IT.

Kitchen Chemistry and Bathtub Dope Section

Home production methods to produce drugs from non-prescription items and household chemicals in your kitchen without prior chemical knowledge.



Making LSD in the Kitchen

Extraction of Morning Glory Seeds

Method I

Here's one that can be done in your kitchen (or in any room with a hot plate). All you need is something to grind up the seeds (a blender works fine), a funnel, filter paper, wood alcohol, a glass jar and a Pyrex baking dish This method will produce one **heavy** trip from each ounce of seeds. No knowledge of chemistry or laboratory experience is necessary. If you can read this you can Make Your Own organic acid!

Grind 100 grams of morning glory seeds in a blender until they are a fine mash. (Pieces of seed hull don't matter, the rest should be fairly mushy).

Soak the mash for 48 hours in lighter fluid. (CAUTION: Cap the container to avoid fumes and don't smoke nearby — OR YOU'll be sorry!)

Put a piece of filter paper in a funnel and filter the solution through it. The theory is that the unwanted chemicals are hereby filtered out of the mash and the mash contains the LSD but just for the hell of it why not keep the liquid, evaporate it and see if you can do something with it, like refiltering with alcohol, evaporating and smoking the residue.

Normal procedure next calls for drying the mash completely (a hair dryer speeds things up), then soaking the mash in 100 c.c. of methyl (wood) alcohol for 48 hours.

Filter the solution through a filter paper (in a filter funnel) and save the filtrate (the liquid).

Soak the mash again in 100 c.c (cubic centimeters) of wood alcohol for a further 48 hours.

Again, filter this through a filter paper. This time you can discard the mash. All the lysergic acid amides should be exhausted from it.

Add the filtrate from the 1st extraction to the filtrate from the second extraction.

Pour the solution (the filtrates from both extractions) into a large, flat glass dish (like a Pyrex baking dish) and evaporate in the absence of direct sunlight. Just like making hash oil, if you expose the extract to direct daylight (sunny or not) the product will be greatly diminished in potency.

After evaporation of the solvent, a yellow gum will remain in the dish. Scrape this up and add some flour, milk sugar or any other powder that won't hurt you (like starch) until it is not sticky, then put this in gelatin capsules or take it as is.

Try one third of the product as a single dose. This should be about one good trip. Adjust the dosage on that basis.

PUBLISHERS NOTE: The seeds of the Morning Glory are sometimes coated with a toxic chemical by the seed companies in an attempt to prevent people from ingesting them. If a package of seeds contains coated seeds this fact will be stated on the container. Soaking the seeds in warm water for half-hour and rinsing in a strainer will remove the coating. Also, while many varieties of Morning Glory seeds contain the active LSA (lysergic acid amide), the yield varies greatly. Therefore, use only Pearly Gates and Heavenly Blue varieties for best results.

Making LSD in the Kitchen

Method II

1. Grind up 150 grams of morning glory seeds or baby Hawaiian wood rose seeds.

2. In 130 cc of petroleum ether, soak the seeds for two days.

3. Filter the solution through a tight screen.

4. Throw away the liquid, and allow the seed mush

to dry.

5. For two days allow the mush to soak in 110 cc. of wood alcohol.

6. Filter the soltuion again, saving the liquid and labeling it "A."

7. Resoak the mush in 110 cc. of wood alcohol for two days.

8. Filter and throw away the mush.

9. Add the liquid from the second soak to the solution labeled "A."

10. Pour the liquid into a cookie tray and allow it to evaporate.

11. When all the liquid has evaporated, a yellow gum remains. This should be scraped up and put into capsules.

30 grams of morning glory seeds equals one trip.
15 Hawaiian wood rose seeds equals one trip.

Extracting Mescaline from Peyote

Method I

1. Obtain 50 grams of dried ground peyote and put in a 500 ml. Erienmeyer flask.

2. Add 250 ml. of wood alcohol, cover the flask tightly, and let cactus powder soak for one day, with occasional stirring.

3. Pour off the wood alcohol solution into a 500 ml. beaker, filter, and place in a well ventilated place to evaporate. CAUTION: Wood alcohol is flammable, keep away from fire.

4. Again soak the plant powder in the flask for two hours, but in 100 ml. of one-normal hydrochloric acid.

5. Filter, discard the mush, and combine the filtered HCL soltuion with the residue from the evaporated wood alcohol soltuion. Filter again.

6. To the solution add enough two-normal potassium dydroxide until the solution is neutral (turns ph paper beige).

7. Add 100 ml. of chloroform, stir and let the mixture stand until it separates into two layers.

8. Separate the two layers, using a separatory funnel and discard the water (top) layer.

9. Add 40 ml. of water to the chloroform, shake, and separate the layers again. Discard top layer.

10. Filter the chloroform, evaporate, and dissolve the gummy residue in 20 ml. of water. Refilter again. Makes about one dose.

METHOD II

1. Take fresh peyote buttons, wash, remove skins, and remove all tufts and foreign particles.

2. Take the peyote meat and grind it in a meat grinder or coffee grinder.

3. Allow ground peyote meat to dry, then grind again as before.

4. Boil peyote meat for five hours, keeping plenty of water in the pot to prevent burning.

5. Take skin and bark of peyote and break it down by beating on a cutting board. When it is broken down, boil for five hours in a separate pot.

6. Strain liquids from both pots and combine. Throw away the peyote mush.

7. Boil this solution until it becomes dark. Do not allow it to become too thick. Label it solution "1."

8. Now cool solution "1."

9. Take the cool solution "1" and fill half a separatory funnel.

10. Add about an equal volume of ethyl ether, and shake for two minutes.

11. Now allow the liquids to settle and form layers. Draw off the water solution (bottom layer) by turning the stop cock. Do not draw off the ether solution.

12. Now process all of the solution "1" in this manner. Label all drawn off solution "2." Put the leftover ether solution into a container and throw away.

13. Boil down solution "2" to cut down volume, but do not allow it to become too thick.

14. Add a phenophthalein indicator to solution "2" until the solution turns red.

15. Mix in small amounts of a diluted sulfuric acid solution, until the red color disappears. Do not add any more acid than required.

16. Add one teaspoon of baking powder (to neutrualize the acid) for each gallon of solution. Boil again to reduce volume.

17. Place solution "2" in the refrigerator for several hours but do not freeze it.

18. While it is still cold, pour off as much of the liquid as possible, leaving the crystals in the container. Rinse the crystals with near-freezing water.

19. Add rinse water with water poured off crystals. Boil this solution to reduce volume and then cool in refrigerator. Repeat procedure for formation of the crystals. These crystals are nearly pure mescaline sulphate. Allow crystals to dry and then capsule.

This usually makes between 30-80 mg. per button.

Extraction and Refinement of Cannabis Resin

(Hashish, Red Oil)

A complete course in the practical chemistry of the marijuana plant. This covers the techniques and equipment used in the extraction of the THC-bearing resin from the plant, and illustrates its successive stages of refinement; from marijuana — to hashish — to red oil. Shows how to convert marijuana to hashish. How to remove the terpenes and other irritating and useless constituents of the resin without loss of THC. Uses easily obtainable chemicals, there are no dangerous reactions and no special lab equipment of chemical knowledge is required.

Removal of Chlorophyll and Fixed Oils

After separating the leaf material from seeds and stems, reduce the leaf material to a powder in a blender, centrifugal juicer, or, for large amounts, a commercial crusher-shredder.

Weigh the powder and record the weight. This information will be used throughout the process.

Soak the powdered material in warm water, strain the water out and discard it. Repeat this procedure until the water is colorless.

Prepare a sodium carbonate (washing soda) solution by adding water to an amount of sodium carbonate equal to ½ the weight of the dry leaf material unti it is complete dissolved.

Add the powdered Cannabis to this solution adding more water if necessary to completely soak the Cannabis, leaving a layer of water above it.

Using low heat, let this mixture steep for 48 hours.

Pour the mix through a cloth filter and squeeze the liquid out.

Dry the solid material and discard the liquid. By this manipulation, the coloring matter, chlorophyll and concrete oil are removed.

Extraction of the Resin by Percolation

Moisten the dry, powdered, solid material with denatured ethanol (ethyl alcohol) until distinctly damp and place it in a tightly-closed container for 6 hours. Check frequently to see that it is damp. Add ethanol if necessary to maintain dampness.

Obtain a cylindrical separatory funnel from a chemical supply house for use as a percolator or make one from a glass or metal cylinder closed at one end, by attaching a stopcock, spigot, petcock or faucet to act as a drain in the center of the closed end.

Secure the percolator in an upright position, open end up.

Stuff some absorbent cotton in the drain hole inside the percolator, and saturate the cotton with ethanol.

Place the dry solid material in the percolator, packing it evenly by tamping it lightly across the entire surface area as the percolator is being filled.

Saturate the material with ethanol, leaving a thin, liquid layer on top.

When the liquid begins to drop from the percolator, close the drain, cover the top tightly to prevent evaporation and let sit for 48 hours.

After 48 hours open the drain, remove the top cover and allow the ethanolic extract to drip out slowly into a container. Do not cover this container.

Add ethanol as needed to maintain a layer above the powdered Cannabis.

After a total of 1000 milliliters (about 1 quart) of ethanol has been used for every kilogram (2.2 pounds) of Cannabis, test the extract for resin content by dropping a few drops in a test tube of distilled water, and checking for an oily precipitate. When the alcoholic extract dissolves in the water and leaves no precipitate or oily layer on top, the percolation is complete.

The powdered Cannabis is now exhausted of all resinoid constituents including the active THC compounds, and may be discarded.

Removal of the Terpenoid Constituents

Mix a suspension of calcium hydroxide in water (milk of lime) using 1 ounce of lime for every 1 lb. of Cannabis (or 2.2 oz. per kilo). Add the lime to the water and shake vigorously until it is completely suspended, using as much water as necessary.

Add the alcoholic extract to the milk of lime, again shaking vigorously. Pour the mixture through a filter cloth, discarding the material remaining in the cloth.

Add a small amount of sulfuric acid to the filtrate in order to precipitate any excess lime.

Add some animal charcol (Norit) to absorb impurities, filter again and distill off most of the alcohol. (In the absence of distillation equipment the filtrate may be evaporated to the consistency of a thin syrup).

Weigh the remaining residue and add twice its weight of water.

Shake well and let the remaining alcohol evaporate.

Shake again with more water, separate with a separatory funnel or siphon and test the pH of the water with pH paper or litmus paper.

Continue washing with water (shaking and separating) until no acid or alkaline reaction is shown. (pH7).

After the final evaporation, dry the resin in thin layers in a desiccator over silica gel if a solid material (hashish) is desired, or place in a tightly capped container if the liquid state is to be maintained (marijuana red oil).

How to Produce Hashish from Marijuana

1. Break up a kilo of marijuana and sift through a screen.

2. Place the sifted leaf in a large pot.

3. Separate the seeds from the stems by shaking seeds down an inclined newspaper. (Seeds are not used because they contain much oil which makes the final product messy. But save the seeds for planting).

4. Add stems to leaf. (They may be pulverised in an osterizer first.)

5. Cover leaf and stems with Isopropyl (rubbing) alcohol, about 1½ gallons per kilo. Rubbing alcohol may be purchased at drug stores or supermarkets for about 25 cents per pint. If ordering large quantities it is better to order industrial Isopropyl alcohol from a chemical company.

6. Place lid on pot and boil for 3 hours on electric hot plate. (caution: alcohol is flammable; do not cook on gas flame.)

7. Strain liquids and store in container labeled "solution A."

8. Repeat steps 5 through 7 using fresh alcohol.

9. After two alcohol extractions repeat steps 5 and 6 twice, using water instead and boiling at higher temperature than with alcohol. Boil each time for one hour.

10. Strain these liquids and store in container labeled "Soltuion B."

11. Reduce volume of soltuion "A" by boiling in a large pot. (Work outside or in a well ventilated room.)

12. Reduce volume of solution "B" by boiling in a separate pot. (Gas flame is safe with solution "b.")

13. When both solutions are considerably reduced (but not too thick), combine the two solutions and boil down further on a hot plate. Lower temperature as mixture thickens.

14. Sprinkle 1½ oz. pulverized pine resin in a little at a time, in fine layers onto the surface of the extract while stirring it in thoroughly.

15. After resin is thoroughly stirred in, continue to boil the extract down to the consistency of heavy grease.

(Caution: When hot, this substance is a molten state and appears as a liquid. In this state there is danger of burning or reducing potency if cooked too long or at too high a temperature.

16. When this substance is about the thickness of heavy grease, pour it about one-half inch thick into a teflon baking tin that is approximately 2" deep.

17. Heat over to 350° F for 15 minutes. Turn off. Place tin in upper oven for 15 minutes.

18. Remove tin and allow to cool.

19. If cool hashish is still tacky, repeat steps 17 and 18 until hard hash is produced.

20. When hard, if you wish to divide hashish into ounces or grams, warm for 10 minutes in low temperature oven, remove and cut immediately with a table knife.

One kilo of marijuana yields about 200 grams of hashish.

Meth Crystal

Method I

A home production method to produce 99.7% pure meth crystal from a non-prescription item and household chemicals in your kitchen at a cost of less than $20.00 per gram.

An Outline of the Process: what's happening chemically.

Desoxyephedrine is converted to the hydrochloride salt and removed from the inhaler cottens along with the other active constituents by means of an acidic water solution.

The desoxyephedrine Hcl is then separated from the unwanted oils (methol, camphor, methyl salicylate and bornyl acetate) by mechanical filtration, the oils being trapped by the filter paper and the water solution containing desoxyephedrine Hcl passing through.

The hydrochloride is then converted back to the water insoluble base by the addition of sodium hydroxide to the water solution.

Ethyl ether is prepared from automobile starting spray by collecting the vapor in a test tube, adding water and shaking to remove traces of the propellant gases and other water-soluable contaminants, the ether layer being drawn off by pipetting with an eyedropper.

The free base is dissolved in ether by means of adding the ether to the water solution and shaking vigorously.

The ether layer containing the base is removed via pipetting with an eyedropper and added to a dilute soltuion of hydrochloric acid in water.

Upon shaking, the hydrogen chloride reacts with the base to form the water-soluable salt, desoxyephedrine hydrochloride.

The ether layer is then removed and the water evaporated over low heat to yield the crystalline end product.

List of Chemicals

Dilute Hydrocholoric Acid

This may be purchased in a hardware store as "Muriatic Acid." It is used for cleaning bricks.

Sodium Hydroxide

This may be purchased in a supermarket or hardware store as "Lye." It is sold for use as drain cleaner.

Ethyl Ether

This may be purchased at gas stations or auto supply store. It comes in spray cans, labeled as "Starting Fluid" and sold for use in cold weather for starting gasoline engines.

"VICKS" Nasal Inhalers

These may be purchased at drug store either singly or on display cards by dozen. They are a non-prescription item.

List of Equipment

Two large eyedroppers — ten small, glass aspirin bottles, one large, sidemouth glass jar, one glass or porcelain bowl, coffee filter paper, one small jar with a top, one Pyrex baking dish and one glass test tube.

The Tried and True Home Production Method

1. Break open 12 inhalers and place the cottens contained within in a small jar and screw the top on.

2. In the bowl, combine 1-1⅓ oz. water and ⅔ oz. dilute hydrochloric acid. Shred cottens and place in bowl, knead with fingers for about five minutes. Use rubber gloves or wash hands after this step to prevent irritation of the skin. Squeeze the juice out of the cottens and throw cottens away.

3. Filter the remaining solution into the quart jar. It is best to repeat this step two or three times. The chemicals in the inhalers (desoxyephedrine) has been bonded to the Hcl in the solution and the un-

wanted oils have been filtered out.

4. Pour enough of the solution into an aspirin bottle to fill it ⅓ full.

5. Pour about ¼ teaspoon of the lye crystals into the bottle and agitate. Do this carefully, as the mixture will become hot and give off a gas. Repeat this step until the mixture remains cloudy.

6. Spray auto starter fluid into a test tube until it is filled halfway. Fill the rest up with water and shake for about five minutes. When the mixture settles, draw off the top layer of ether with an eyedropper. Repeat this until you have about three ounces of ether.

7. Fill the bottle from step 5 up the rest of the way with ether. Agitate for about eight minutes. It is very important to expose every molecule of the free base to the ether for as long as possible.

8. Let the mixture settle. There will be a middle layer that is very thick. Tap the side of the bottle to get this layer as thin as possible.

9. Remove the top layer of the eyedropper, being careful not to get any of the middle layer in it. Save the ether and throw the rest away.

Fill the bottle half-way with water and about ten drops of hydrochloric acid. Pour the ether from step 9 into the bottle and shake for about 2 minutes. When it settles, remove the top layer of ether and throw it away. The free base has now been bonded with the Hydrogen chloride in the water layer.

11. If there is anything left from step 3, repeat the process with that.

12. Evaporate the solution in a Pyrex baking dish using very low heat. Crystals of desoxyephedrine hydrochloride (synonymous with methamphetamine hydrochloride) will form.

SPEED

Method II

This formula appeared in the 1800's for home brew speed. It appears to have all the chemicals for meth. We have never tried this and can not guarantee it would work or is even safe.

Place several pieces of SOFT coal in a bowl. In a separate bowl combine:

6 tablespoons salt
6 tablespoons Blue Boy or Rosebud bluing compound.
6 tablespoons water
1 tablespoon of ammonia (concentrated)
Pour the mixture over the coal.

Crystals will begin to form soon after the materials are brought together and continue to do so for several days. Every so often, add some more ammonia water to replace that which is consumed by the reaction.

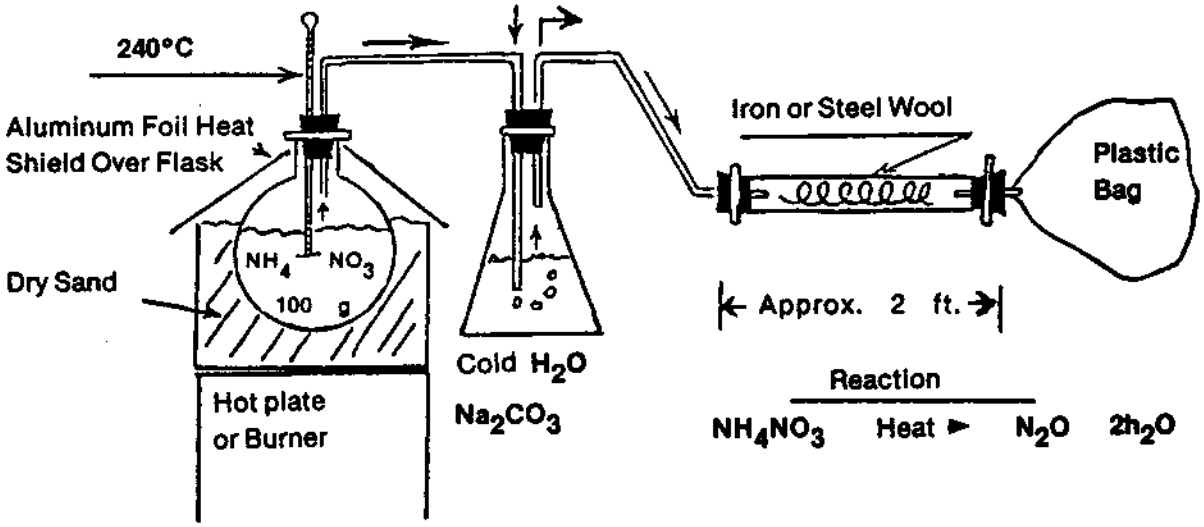
Nitrous Oxide

(Laughing Gas)

Method I

Laughing gas freaks will be overjoyed with this home-production method of generating nitrous oxide from chemicals that can be purchased just about anywhere, even in some drug and hardware stores. It costs next to nothing to produce and the method is safe, simple and efficient. Lots of laughs with this one!

NITROUS OXIDE GENERATOR
(Laughing Gas)



Step 1
Heat 100 grams Ammonion Nitrate to 240°C. Heat only as hot as necessary to produce gas; never over 240°C as excess nitric oxide (NO_2) may be produced.

Step 2
Bubble gas through solution of 1 tblsp. washing soda (Na_2CO_3) per cup of H_2O to remove soluble impurities.

Step 3
Pass gas thru glass tube packed reasonably tight with iron or steal wool to remove poisonous heavier oxides.

Step 4.
Remove bag and inhale N_2O from it. A quart or two should do it. Too much will cause unconsciousness so don't cover your head or mouth. Periodically change steel wool and clean glassware.

Method II

How to get Laughing Gas from your local store

Laughing gas Nitrous Oxide (N_2O) is often times used as a propelant for many food preparations carried in aerosol cans such as whipped cream, artificial whipped cream, cheese spread and etc. When NITROUS OXIDE is employed for this use in food it must be listed on the table of ingredients on the label. By holding the can in an upright position without shaking the gas can be released without the foodstuff coming out.

How To Convert Inferior Pot into High Quality Superweed

Method I

1. Sift the leaf through a screen.

2. Place seeds and stems in a large pot and cover with isopropyl (rubbing) alcohol.

3. Cover the pot with the lid and heat on electric hot plate for 3 hours. (caution: alcohol is flammable — do not use gasflame.)

4. Strain the liquids and store in container labeled "Solution A."

5. Repeat steps 3 and 4 with fresh alcohol.

6. Repeat steps 3 and 4 with water instead of alcohol. Store in container labeled "Solution B." (This time gas flame may be used with one hour boiling time.)

7. Repeat step 6.

8. On an electric hot plate outside or in a well ventilated room, reduce volume of solution "A" by boiling.

9. On a gas flame reduce volume of solution "B" by boiling .

10. When both solutions are considerably reduced (but not too thick) combine the two solutions and boil down further on hot plate. Low temperature as mixture thickens.

11. When this combination begins to get syrupy, allow to cool. When cooled it should be about the consistency of a thin syrup. If it is still very watery it may be boiled down further and cooled again.

12. Place sifted marijuana leaf into the same pot with the extracted syrup. Knead it and roll it around in this until leaf is thoroughly and evenly coated with the syrup.

13. Spread leaf on baking tin to dry. To fast dry: Preheat oven to 300 degrees F for 15 minutes and turn off heat. Then place baking tin in oven for 15 minutes. Repeat process until dry.

On Kilo of low-grade marijuana makes about 500 grams of clean (seedless, twigless) superweed.

Method II

Get two dry ice blocks (at any ice company) and a large plastic garbage bag. Then put as little as you want to one or two pounds of pot on one side of one block of the dry ice. Then put the other block on top of it (use gloves when handling dry ice) and put them in the garbage bag and seal it well, then put it in a closet or dark place until the ice dissolves. At the bottom will be your pot, and it will be 10 to 100 times better.

Method III

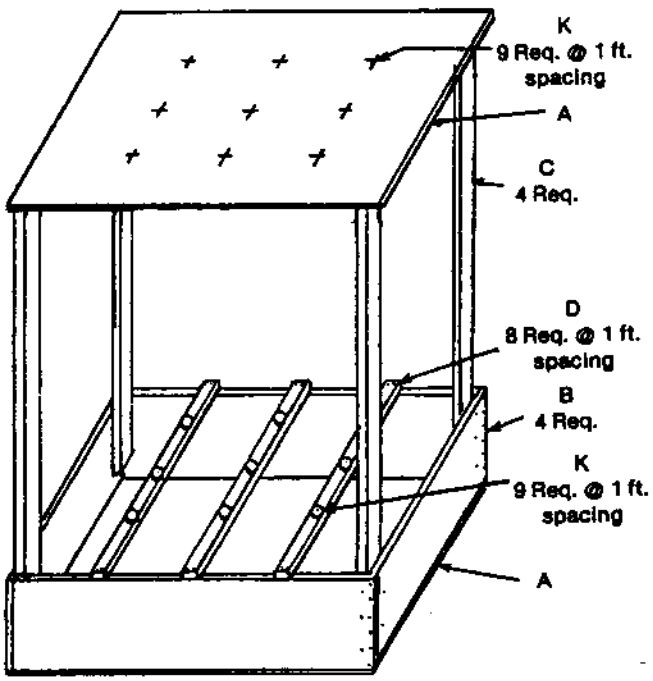
Get one teaspoon of sugar and put it in one oz. of lukewarm water, mix together with pot until pot is good and moist. Put it in a Ziplox bag or a baggie with rubber bands to seal it well, but leave a little air in. Then put it in a dark place or underground, for about a month or so, the longer the pot is left, the better it will get.

How to Grow Three Ounces of Marijuana per Week Indoors in a 4ft. x 4ft. Area

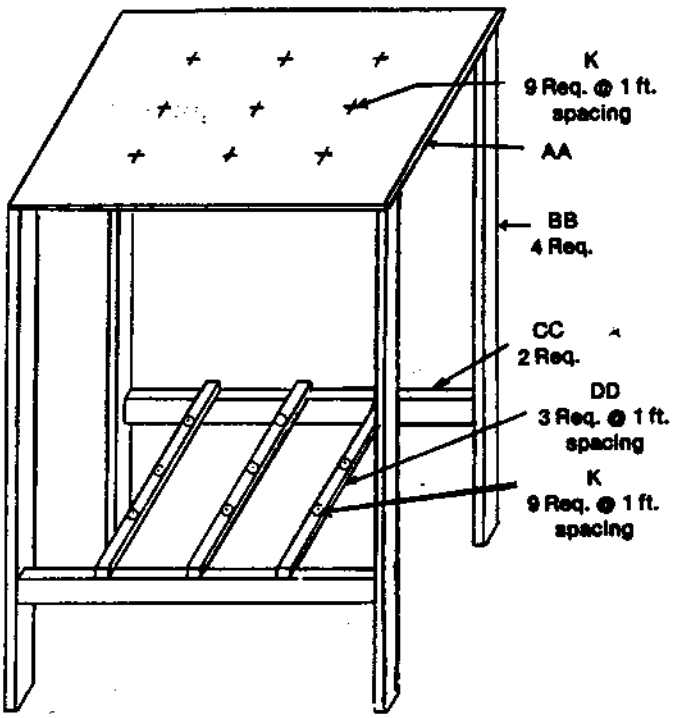
The Super Chamber

This chamber will grow 3 oz. of dry high grade smoking marijuana per week in a 4 ft. x 4 ft. corner of your bedroom all year round. Even if you don't smoke it all yourself, you can probably produce enough marijuana to quit work and spend your time on more useful things. Here are complete instructions, drawings, parts list (including where to get all items) and exact step by step procedure to grow at least 3 oz. per week.

METHOD 1
Using Soil Box Construction



METHOD 2
Using 16 pcs. 5 gal. cans



Method I

Using Soil Box Construction

Item No.	
A	1 sheet of 3/8"x4 ft. x 8 ft. CDX plywood cut in half to two pcs. 4 ft. x 4 ft. (less saw blade cut width).
B	4 pcs. wood 1"x12"x47¼" finished shelf lumber (actual finished size ¾"x11¼"x47¼".)
C	4 pcs. 2"x4"x60" (actual finished size 1½"x3½" x60".)
D	3 pcs. 1"x2"x48" (actual finished size ¾"x1½" x48".)
E	1 lb. cement coated box nails 2¼" long (#7-D.)
F	1 lb. cement coated box nails 1¼" long (#3-D.)
G	50 Brads or Tacks 5/8" long (for holding lamp sockets).
H	1 100 ft. roll of 18" wide aluminum freezer foil.
I	1 roll of 12" wide aluminum foil.
J	1 spray can of contact cement.
K	9 sets (18 pcs.) medium bi-pin fluorescent BUTT-ON fluorescent lampholders Leviton #395 or equivalent.
L	4 pcs. 2-lamp rapid start fluorescent ballasts Universal #446 LRTCP or equivalent.
M	1 pc. 1 lamp rapid start ballast Universal #412-LTCP or equiv.
N	55 insulated splice nuts for splicing 2 #16 gage stranded wires.
O	2 insulated splice nuts for splicing 6 #16 gage stranded wires.
P	200 ft. 16 gage stranded fluorescent wire w/ 600 volt insulation.
Q	1 roll Scotch electrical tape (or equiv.)
R	1 15 amp. 2 wire plug cap (120 volt).
S	1 24 hour 15 amp. 120 volt Automatic lamp and Appliance Timer with power cord & plug (such as is used to turn house lights on and off when on vacation) — Intermatic Model # E911-16 or equivalent.
T	9 pcs. (plus a few spares) Westinghouse #F40/AGRO Agro-Lite fluorescent Plant Growth Lamps. NOTE: These lamps are used in **vertical** (up & down) position alongside and between the plants **not** in horizontal position over the tops of plants. **This is important. Do not change.**

Method 2

Using 16 pcs. 5 gal. cans

Item No.	
	Delete item nos. A, B, C, D & E from Method 1 parts list and substitute the following:
AA	1 pc. 3/8" plywood cut 4 ft. x 4 ft.
BB	4 pcs. wood 2"x4"x65" (actual size 1½"x3½"x 65")
CC	2 pcs. wood 2"x4"x45" (actual size 1½"x3½"x 45")
DD	3 pcs. wood 1"x2"x48" (actual size ¾"x1½"x48")
EE	1 lb. cement coated box nails 2½" long (size #8-D)
FF	16 pcs. 5 gal. pails (empty paint cans) without lids. Use items No. F thru T as listed in Method 1.

Assembly Instructions

Cement 18" wide aluminum foil to item "A" to act as a reflector before nailing on item "K" lampholders (using item "G" Brads). Assemble items "B, A, K & D." Then clamp or hold in the 4 item "c" side posts inside the base and nail on the top (item "A" with foil & lampholders). Unclamp and move item "c" side posts up until the proper space if obtained for the fluorescent lamps to fit between the sockets, then nail side posts in place inside the base.

Method 2 is assembled in a similar manner as shown on the illustration.

Wire in all lampholders as shown on the wiring diagram on the ballasts. Run the wires up the side posts and lay the ballasts on their sides on the top with the 24 hour timer. Connect all ballast power wires to Plug Cap item "R" and plug into timer. Do a neat job and tie all wires down with string to keep them out of your way, then wrap aluminum foil around each of the four side posts. Cut 12 pcs. of the 18" wide aluminum foil to 4½ foot lenghts, cement the ends to the top (3 per side) and allow to hang down on all four sides to completely enclose growth area with reflector sides. Allow aluminum foil to hang free for circulation.

Growing Instructions — Read Carefully

The best soil mix is 25% Rotted Cow Manure, 25% Sharp Sand, 10% Peat Moss and 40% Screened Top Soil. Break up all lumps and mix thoroughly. Adjust the Ph to 6.5 with fresh wood ashes or lime.

The Ph is easy to check — just put some soil in a small bottle, add a little water, shake and check with litmus paper, a diabetic test kit (available at most drug stores) or a soil test kit available at most garden supply stores.

Select thirty of the darkest seeds from your most potent stock and springkle between wet towels. Cover with aluminum foil and keep in a warm place for sprouting. As soon as each seed starts to sprout, plant it ½" deep (with the sprout pointing up) in **potting soil** in a small (approx. 2½" dia.) **Peat Pot**, sprinkle on a little water and plant peat pot and all in the growth chamber. Plant twenty or so in the chamber to allow for selection.

The peat pot allows for easy transplanting with minimum shock to plant and when the plant gets large enough the roots will grow right through the sides of the peat pot into the surrounding soil. The light cycle should be set at 16 hours on and 8 hours off per each 24 hour cycle. For best results the dark cycle should be just that — dark with no lights on in the room. Keep well watered and do not get water on the leaves as this will weigh the plant down when small. If the plant leans over, prop it with dirt.

When the plants are about 8 inches or so tall, select the best 16 plants and replant peat pot and all in exactly straight rows of four each — one foot apart and six inches in from the edge of the chamber. Cut six strips of aluminum foil 50 or so inches long and perforate full of holes with a nail or ice pick for watering. Lay these foil strips on top of the dirt between the plants. When watering put water right on top of the foil. The aluminum foil reflector sides should be hanging down enclosing the growth area at all times when the growth lights are on.

Vertical lamps are the most efficient way to grow the heaviest foliage along the entire length of the plant. This combined with the full aluminum foil reflector system on all four sides of the growth area allows for the most efficient utilization of the available light energy with very little waste due to absorbtion in the dirt or loss out thru the sides.

If you want to add more lamps, install one vertical lamp in each of the four chamber corners. If you want to go even further you can install one horizontal lamp on the chamber ceiling over each row of plants (4 rows equals 4 lamps). In any case do not exceed thirty lamps total in this chamber as you will be approaching a point of diminishing returns. However nine lamps will do the job at minimum cost.

Keep the room or at least the growth area warm 90 to 95 degrees if possible) and the humidity as low as possible. If you can afford it put an electric heater with thermostat control and a good size dehumidifier in the room to increase the resin production. You can run the water from the dehumidifier back into the chamber soil. A small exhaust fan or blower can also be installed in the top of the unit to keep air moving past the leaves and out of the chamber area. If you are in a cold climate a soil heater will also usually speed things up.

Keep an eye on the Ph as the soil will keep trying to go acid and will have to be constantly pushed back to 6.5 with fresh wood ashes or lime.

Keep the soil moist at all times — use warm water if possible — river, lake or rain water is better than tap water with chlorine. If you tap water is heavily treated with chlorine, let it sit in an open top container for a few days before use. If the room is warm this will also help the water temperature.

If you want to add more fertilizer after a few months, use liquid tomato fertilizer. Do not add fertilizer when the plant is small. When adding fertilizer put it on just before watering, do not get any on the leaves or stem, do not fertilize closer than two inches from the base of the plant stalk and do not water the leaves as this seems to cut down resin

build-up.

If you started with good seeds and did everything right, in two months your plants should have grown to the top of the unit and have filled out to where the chamber is almost too thick with leaves to see thru. Keep cutting or pulling away the branches and leaves that grow around the lamps.

This chamber really works and is capable of growing healthier more potent plants than can be grown outdoors with the same seed **provided you set and keep conditions right.**

The technique of growing with this system is to give the plant everything it needs for maximum potential yet make the leaf system constantly fight to keep from getting dried out. Resin production is one of the unique methods this plant uses for survival.

From this point on you can start plucking leaves as required for use. The plants can be used in this fashion for approximately one year if you are careful not to allow them to flower. If the plants try to flower turn up the daylight to 20 hours of light per 24 hour period and pinch off the buds. If this does not stop the flowering stage let the plant go to seed.

The longer the leaf is on the plant before it goes to seed the more potent the leaf will get.

You can make the plants go to seed by reducing the daylight period to below 12 hours per 24 hour period. As soon as the flower buds start to appear increase the light cycle back to 16 hours and run the plant thru to seed.

When your plants do go to seed pull your plants up (roots and all) when approximately 75% of the seeds on the plant are fully mature. Wash all the dirt from the roots and hang them upside down roots and all to dry in the chamber with the lights on 24 hours per day. Don't rush things and keep the aluminum foil on the sides of the chamber to slow down the drying process. When dry remove the leaves and sift thru a strainer.

With some species you can cut the main stalk off just above the bottom two healthy branches and start over again using the root system already there (provided that the plant did not start to flower). If you do this leave the lights on 24 hours per day until the plant gets some leaves built up. Then go back slowly to 16 hours per 24 hour period.

This is a very simple easy plant to grow and get along with, however it is a living thing and should be given respectful careful care if you want to get the most out of it.

Good luck and be careful — a good friend today might not be such a good friend tomorrow. If you don't tell anybody what you are doing they can't tell anyone else or rip you off when you are not around.

Lettuce Opium

How to extract Opium (Lactucarium) from Lettuce

For this process you will need a generous quantity of Endive or Escarole lettuce hearts, a vegetable juicer or other means of extracting the juice from the hearts, a strainer, a double boiler, a stove and a cookie sheet.

1. Discard all but the hearts (or white part) of the lettuce. (The hearts are where the majority of the Opium Juice is concentrated.)

2. Wash the lettuce hearts with water to remove all dirt and foreign matter. (Which might cause the Opium to be impure.)

3. Squeeze out the juice from the hearts and pour through a strainer to remove particulate matter. (This juice should be a muddy brown and have a slightly bitter taste.)

4. Pour juice into a double boiler and slowly boil down to a slimy gooey consistency.

5. Allow to air dry on a cookie sheet.

The final product should be about the consistency and color of Nepalese Hash.

The Bust or How to Avoid One

Probable Cause

Source: The 4th Amendment to the U.S. Constitution. "The right of the people to be secure in their persons, houses, papers and effects, against unreasonable searches and seizures, shall not be violated, and no warrants shall issue, but upon **probable cause**, supported by oath or affirmation, and particularly describing the place to be searched and the persons or things to be seized."

An American's constitutional birthright is the right to be left alone by the government. Whenever the government intends to interfere with that right it must have good reason. That "good reason" has been labeled **probable cause.**

A reasonable man standing in the shoes of the police would have reasonable or probable cause to believe a crime has been, or is being committed.

The police have good **probable cause** to search and bust if they see dope, smell dope, overhear present-tense prossession or use of dope, have an "acceptable snitch" or see you really wasted in public.

The police cannot legally hassle you, or search you without an acceptable reason, and what is acceptable is determined by the **courts**, not the **police.** The police do not always need warrants — if you get busted with a warrant, you need a lawyer. Our concern here is getting busted without warrants or better yet — not getting busted at all.

How you are dressed, your life style, what your car looks like, (for example, peace signs, marijuana stickers, etc.) is not good for probable cause. The reason for this is because America is the land of the free — that means you have a right to look the way you want.

So remember, do not give the police probable cause to search or bust. One exception to probable cause is if you **consent** to a search, then the police do not need probable cause, so obviously never consent.

You have a constitutional right to say no to a cop. Not to physically resist, but to say no. "You do have a right to resist if he starts beating you up." Never consent, do not resist, be courteous, but never consent.

Typical language:

Officer: May I see inside your purse?

Answer: No sir. I'm not going to resist you, but you don't have my consent.

Never consent. If you are smoking, have incense burning or smoke away from front door. If the cop smells burning grass that is probable cause to bust and search.

Typical language: Police officier (showes badge) we've been informed that you have drugs here, may we come in to clear this up.

You: No sir, not without a warrant.

Cop: They will always say at this point "Why? Got something to hide?" to put you on the defensive.

You: No sir, the constitution requires a warrant, and I believe in the constitution.

If you look nervous telling the police things like this, don't worry about it, your nervousness in a consent situation does not change the rules.

Other than remembering not to consent, you just have to remember to keep your dope out of sight, smell and sound. This is labeled plain sight or plain view in legal terminology. (The concepts herein apply to possession of any kind of contraband.)

If a cop is in a place where he has a right to be and sees, smells or overhears present tense use of dope, he's got a good bust and you have a problem. So keep your dope out of plain view or as the courts put it, where the public can't see it.

A police officer has a right to be (without a warrant or emergency) in places open to common public use. That might include private property if it is frequented by the public, such as an empty lot with a commonly used walkway between houses or walkway to rear of dwelling. A policeman can get permission from a neighbor to look into your yard and if you have a 6 foot fence and the officer is 6 foot 5 inches it's a clean bust.

The officer must be where he has a right to be and a right to see, and see the dope from that place for a bust to be good.

If the officer is peeking through a vent in the roof, (in a place he does not have a right to see you from)

the bust is no good. Of course, there is nothing to prevent the cop from peeking, then coming down to see inside from a legal place (he would then keep mum about peeking.) So don't smoke in public places.

Also, keep your car clean and don't leave roaches (plain view) around. Don't leave warrants outstanding, know where your auto registration is and don't keep your dope there.

Typical language: After asking for you license and registration.

Cop: Mind if I look in the trunk?

You: Yes, sir, I do.

Cop: Got something to hide?

You: All I'm doing sir is asking you to observe my rights as a citizen.

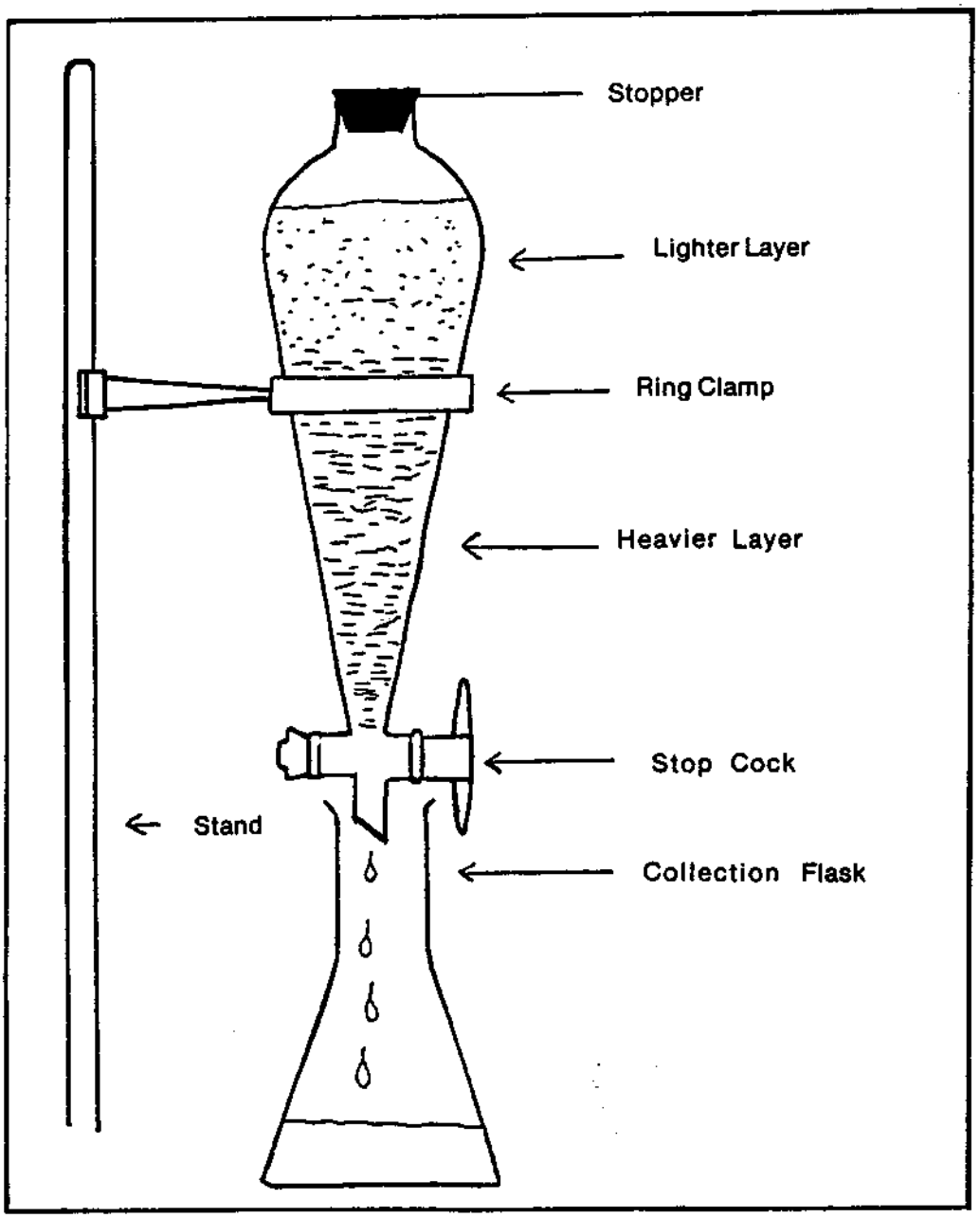
I'm not going to resist, but I'm not going to consent either.

What you need to remember is not to leave your dope in plain view and don't consent to a search.

Lab Equipment

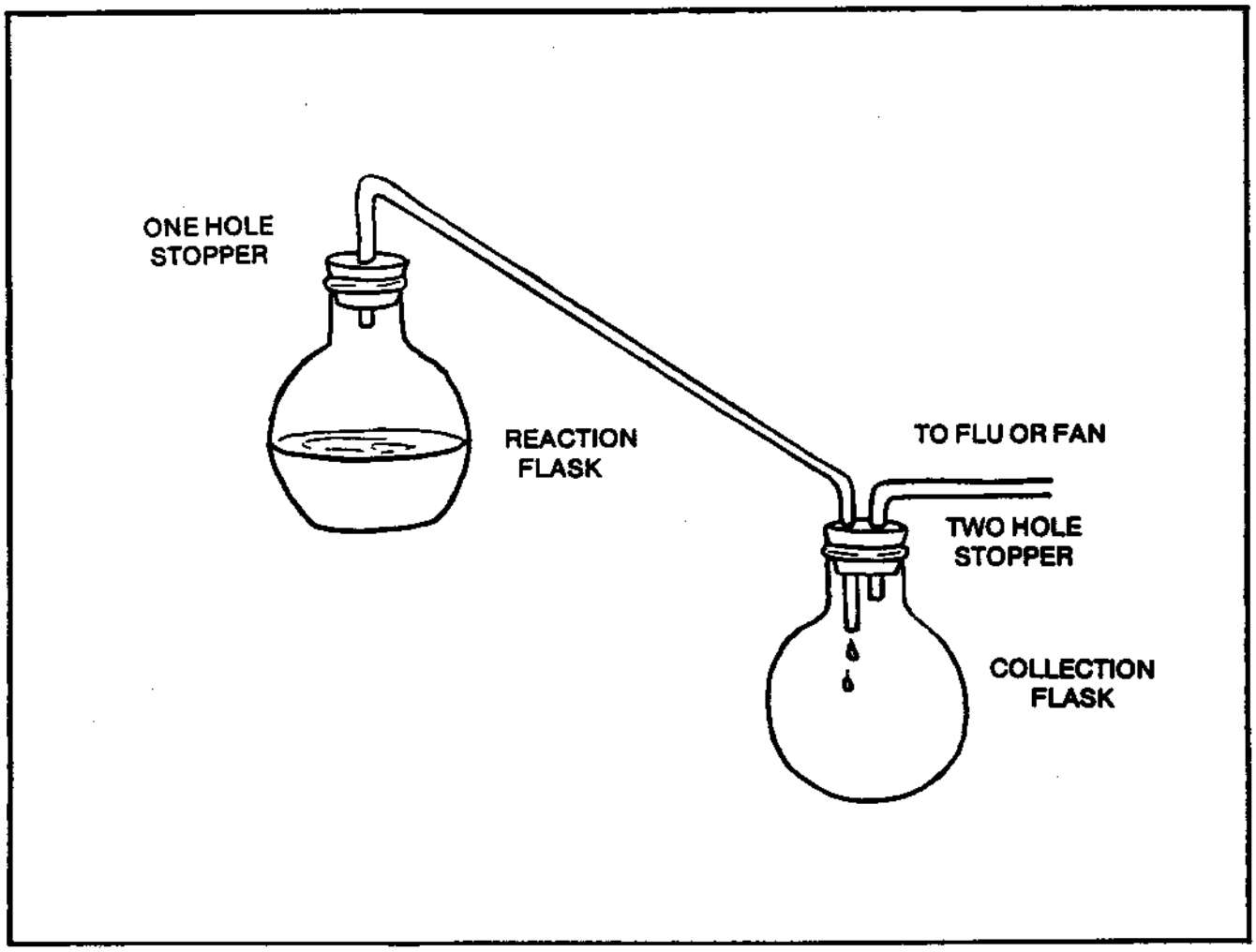
Separatory Funnel:

A columnoid funnel with ground-glass stopper at top and stopcock at bottom. Solutes in immiscible solvents of different specific gravity are separated as follows: Combined solvents are shaken in funnel, funnel is allowed to stand until the solvents separate into layers, stopcock is opened and lower layer drained off into receptacle. To wash in a separatory funnel simply means that the washing solvent is added to the mixture in the funnel, shaken, allowed to separate, and removed. Be careful always to note which layer contains the desired product and which contains the impurities. This is made clear throughout the text of this manual. This funnel is also used as a drop funnel. If emulsion develops and threatens to clog funnel, filtering through filter-cell (Celite) often helps.



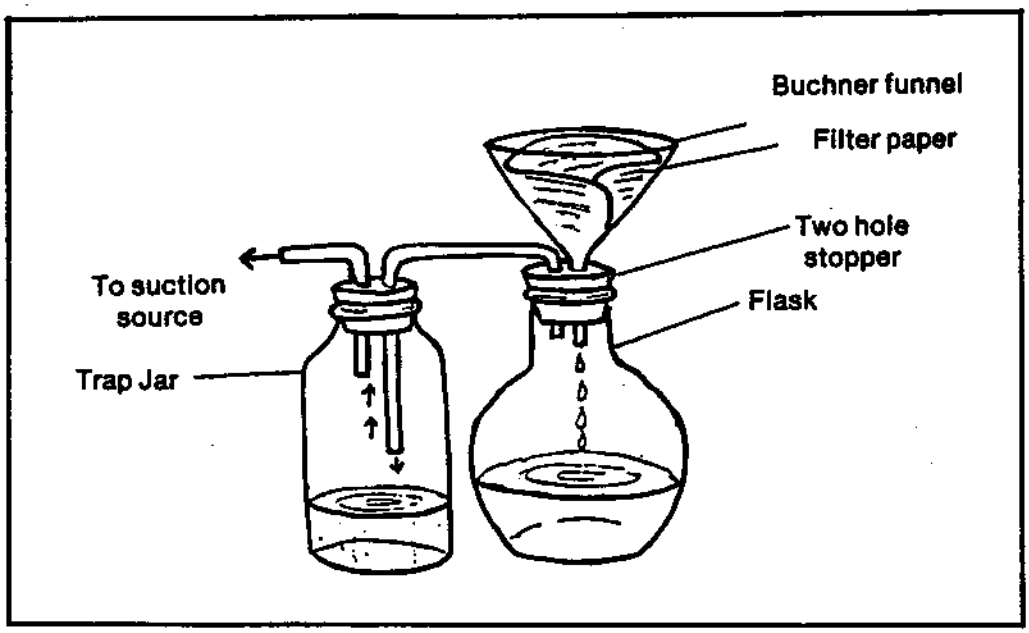
Aspirator:

Tubing from a one-hole stopper in a flask leading to one hole of a two-hole stopper in a collection flask at a lower level for condensing and collecting noxious fumes.



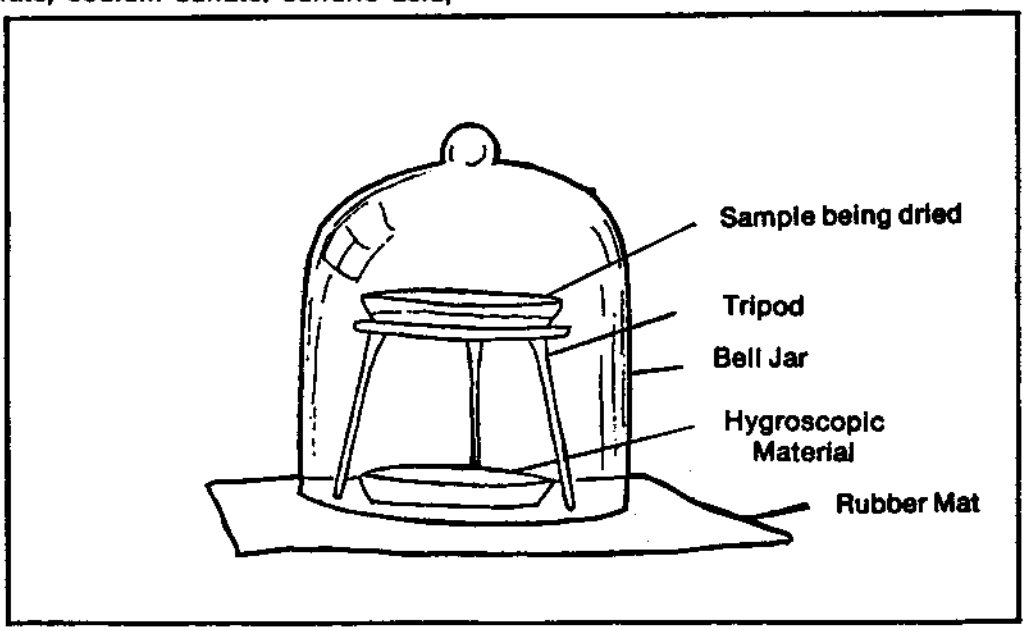
Buchner Funnel:

An ordinary tapered funnel which holds a filter paper. The liquid which passes through the filter is called the filtrate; the material which remains on the filter paper is the filtrant. Vacuum or suction filtering requires that a two-hole stopper be fitted to the receiving flask and the funnel fitted to one hole while a vacuum source is attached to the other. The vacuum must be strong enough to draw the filtrate through the filter, but gentle enough not to rupture the paper.



Desiccator:

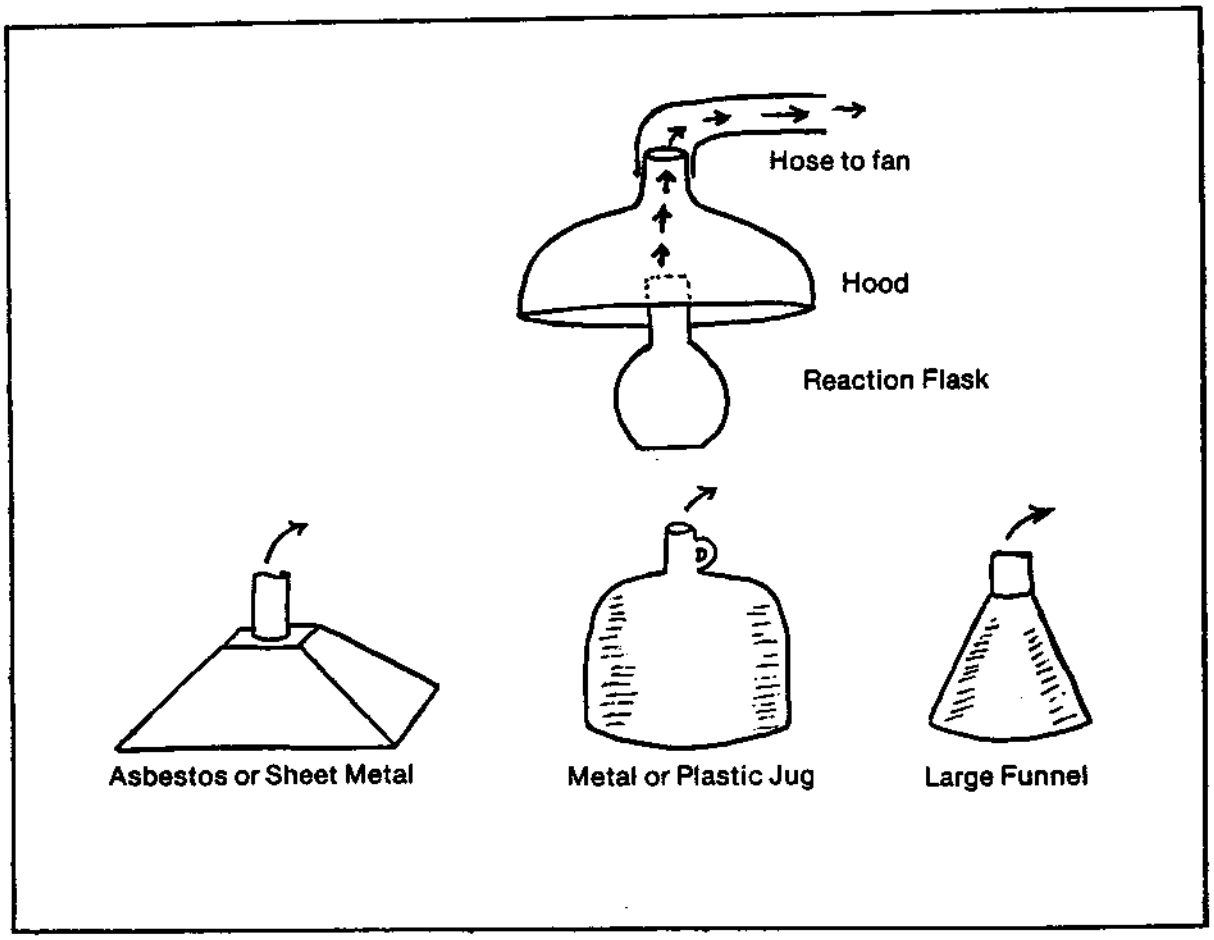
An inverted ball jar in which the material to be dried is placed in a tray above another tray containing a material which will absorb the moisture (magnesium sulfate, sodium sulfate, sulfuric acid, etc.)



Flume Hood:

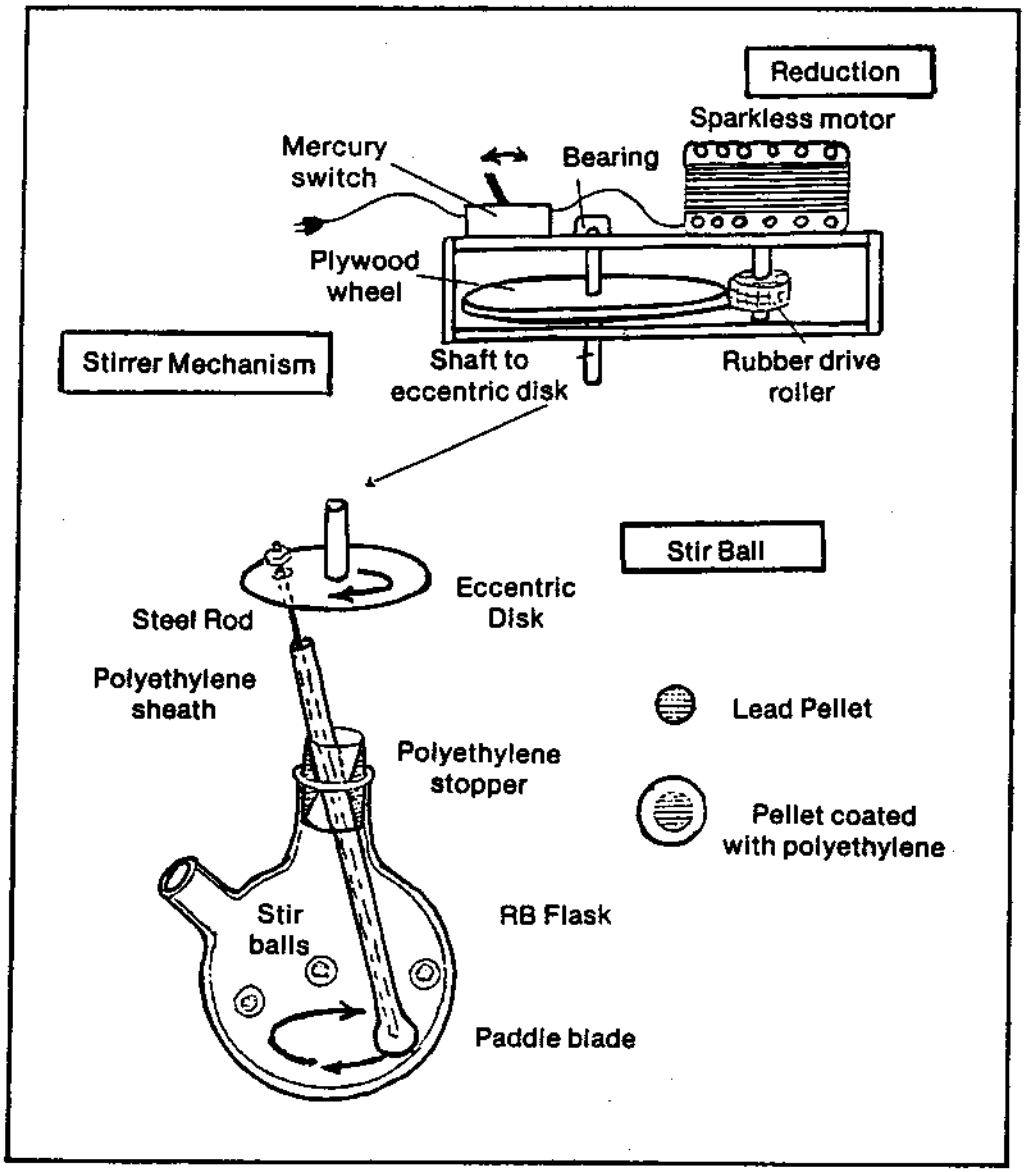
A large inverted funnel-shaped structure suspended above the reaction flask and leading by way of a flue to a spark-free exhaust fan to carry off dangerous or unpleasant fumes.

The above illustrations are largely self-explanatory. In the first case, four sides of sheet asbestos or metal are cut from the same pattern and fitted together with brackets or brazed, welded, etc. The 2nd and 3rd types of hood are more easily made and probably more efficient since only a small intake of air around the reaction flask is desired, and a funnel or jug can be found which will more closely fit the specification. In each case, a flexible tube or hose is fitted to the hood by means of hose clamps and secured to (for instance) a kitchen exhaust fan. This may usually be accomplished by securing a wood or cardboard plate over the fan grill and cutting a hole for the hose. The hood is suspended over the reaction flask by means of wire to the ceiling or any other means that the particular circumstances permit.



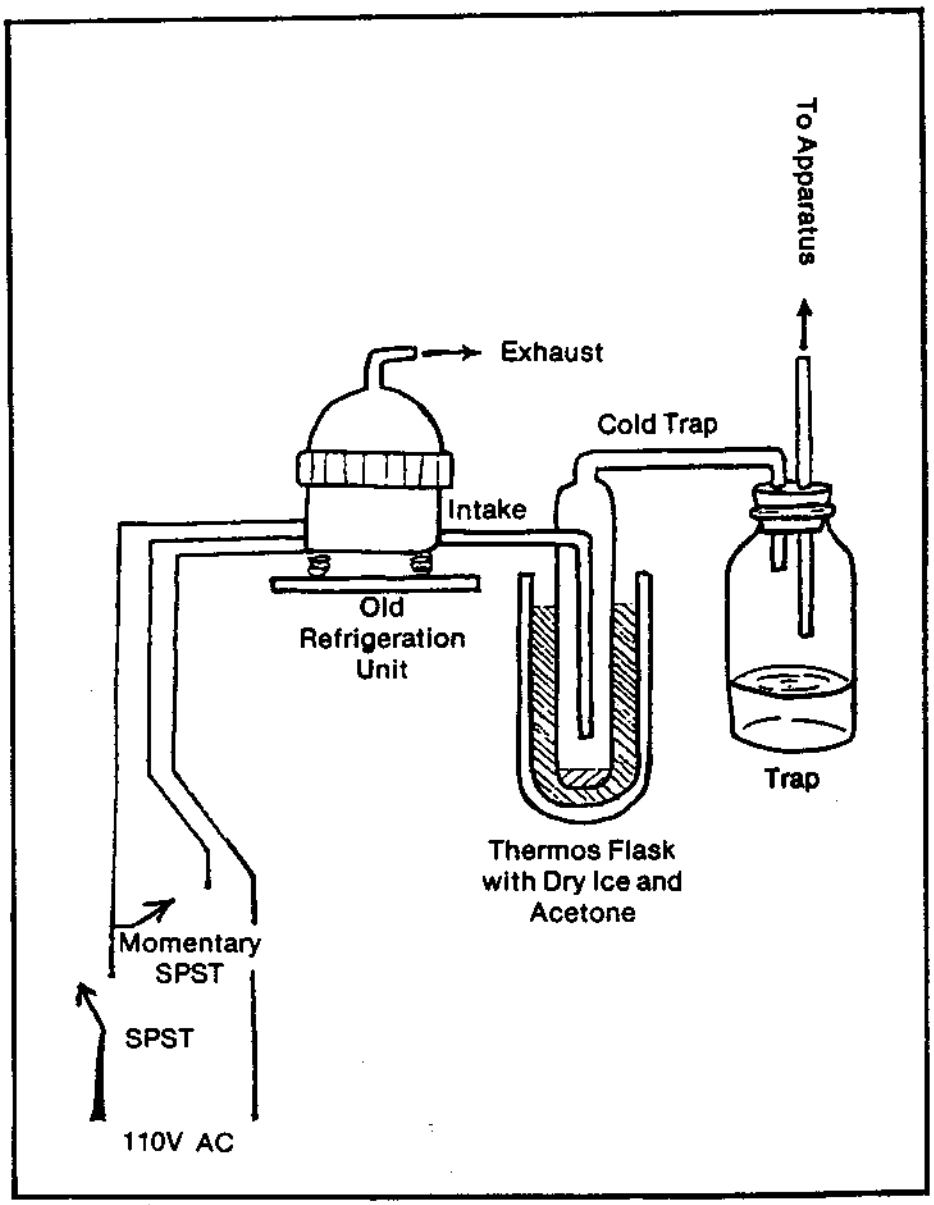
Wobble Stirrer:

Motor-driven eccentric disc with stirring rod and stir balls. Used for sustained mechanical stirring at a consistent speed. Construction hints: Use mercury switch and sparkless motor since device will often be near to flammable vapors from flask. Motor speeds and ratio of rubber drive rollers and friction wheel should be such as to give stirrer a range of 100-500 RPM. Steel rod should be coated with glass. Polyethylene is often used but will deteriorate in some heated solvents. Top of rod should fit loosely in eccentric disc. Bottom of rod should form small, flat paddle. Glass marbles make excellent stir balls.



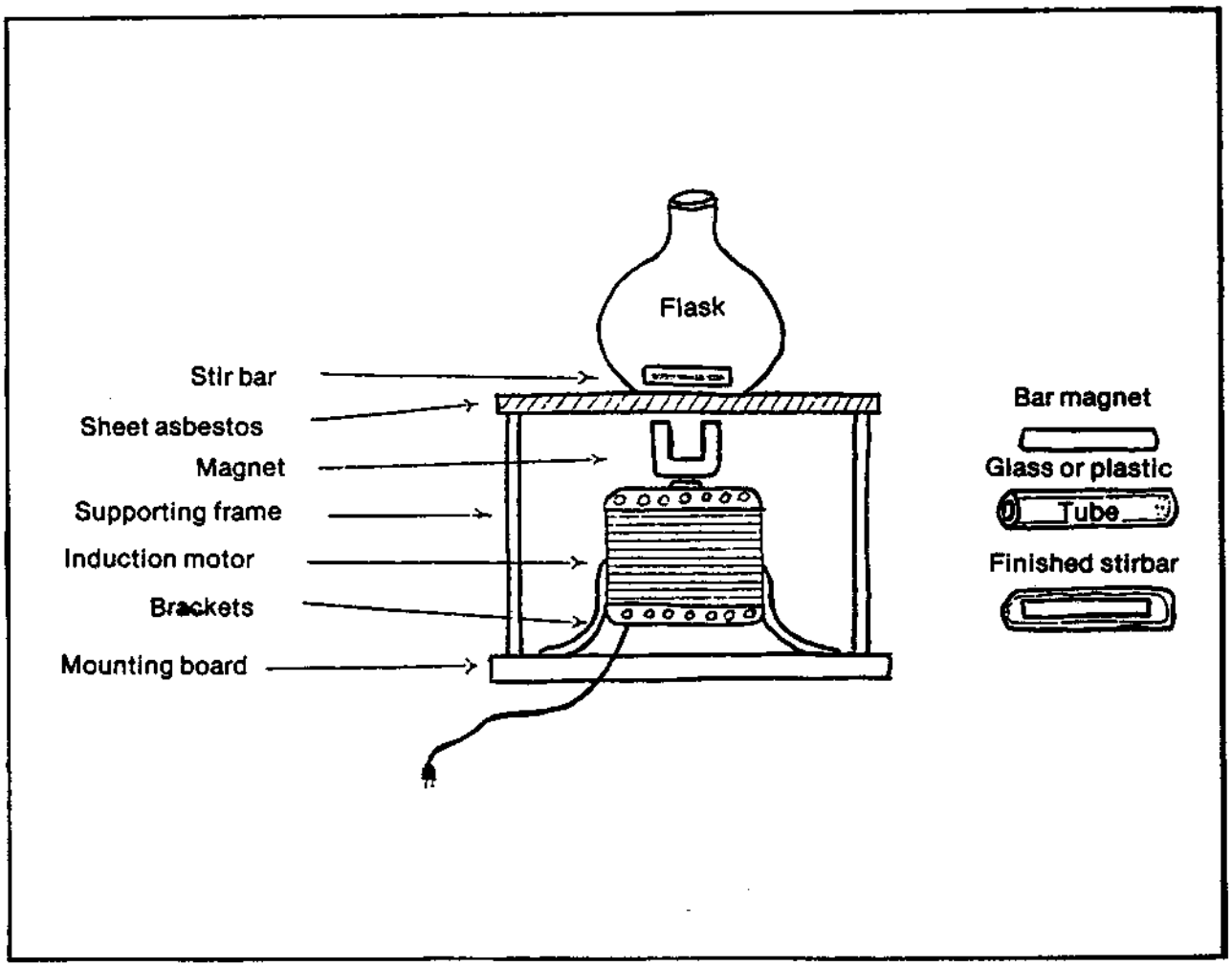
Vacuum Pump:

A compressor motor with conduit lines for vacuum evaporation and suction filtering. Although this item can be built from a used refrigerator unit (be sure motor is sparkless) it is probably best to purchase rather than build. A good vacuum pump should go for upwards from $25 at a surplus house. It has so many uses that it is worth the investment.



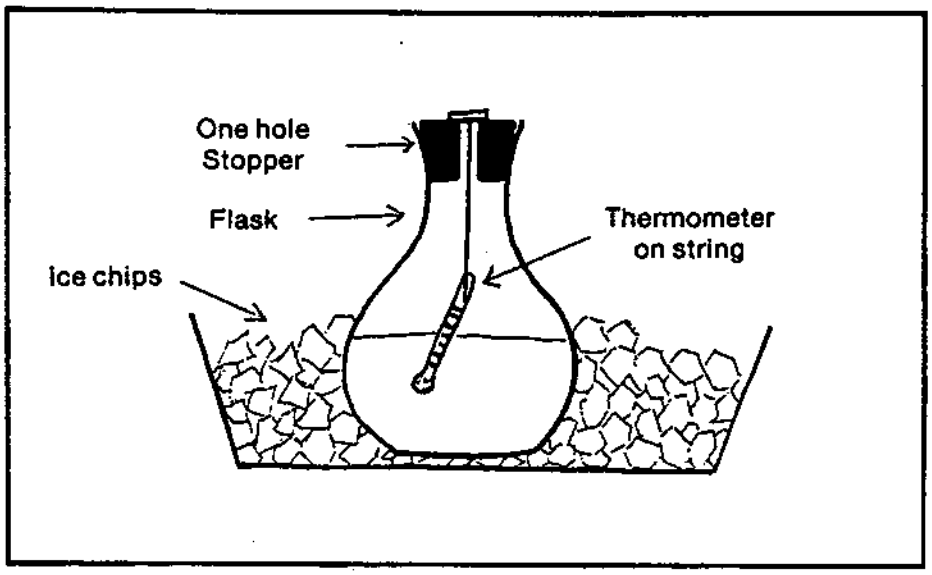
Magnetic Stirrer:

Magnet attached to motor turns magnetic stir bar within flask. Necessary when mechanical stirrer cannot be introduced through top of flask. Construction hints: Can be built from used phonograph turntable or electric motor with voltage regulator. Do not attempt to drill magnet; attach with bracket clamp or epoxy resin. Encase in wooden supporting frame with asbestos sheet top placed as close to magnet as possible (1/8" clearance). Asbestos should not sink and touch magnet under weight of full flask and heating mantle. Purchase teflon-coated, egg-shapped stir bar from lab equipment supplier.



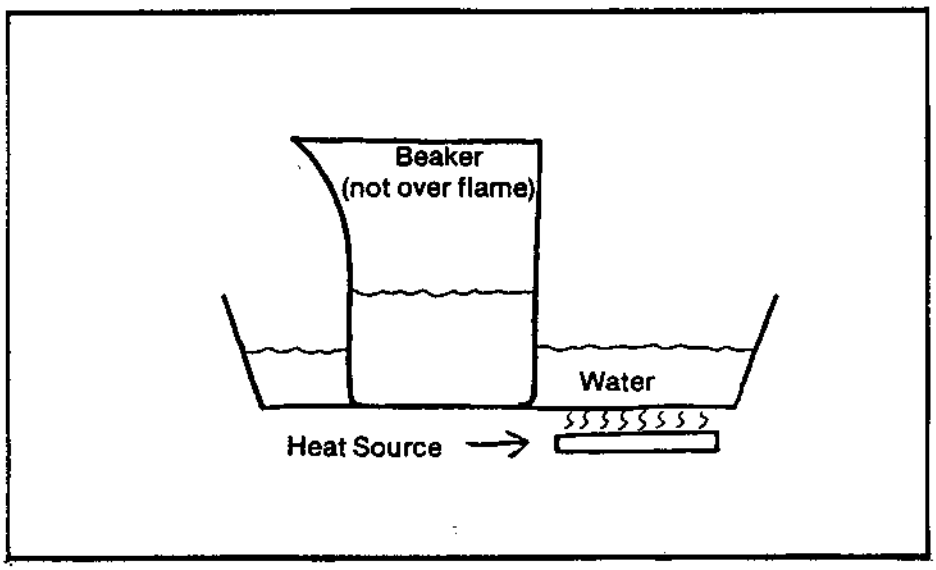
Ice Bath:

A pan filled with ice water or in which a flask is cooled. Salt is mixed with ice to produce still lower temperatures.



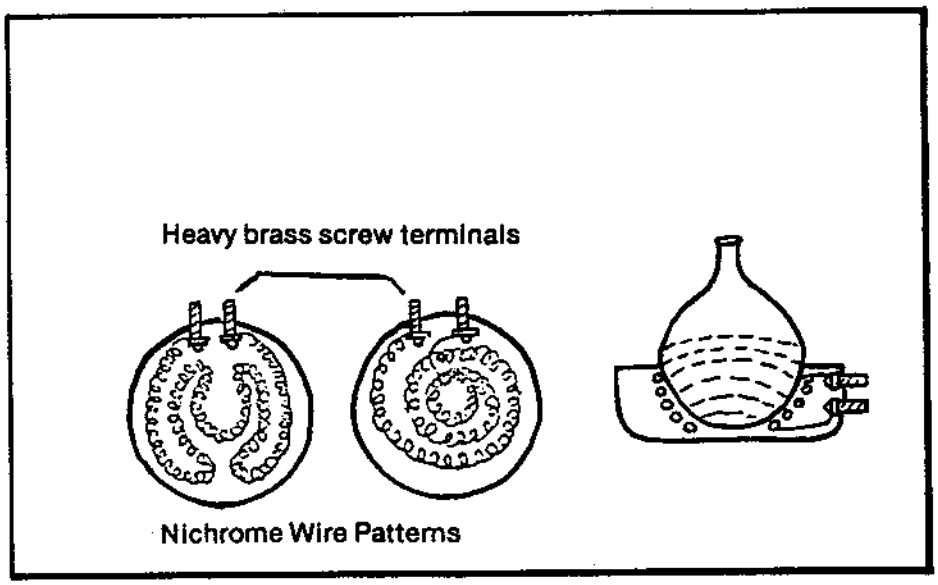
Hot Bath:

A double-boiler system involving a pan of boiling water in which is placed a flask containing material to be heated or boiled by the water's heat.

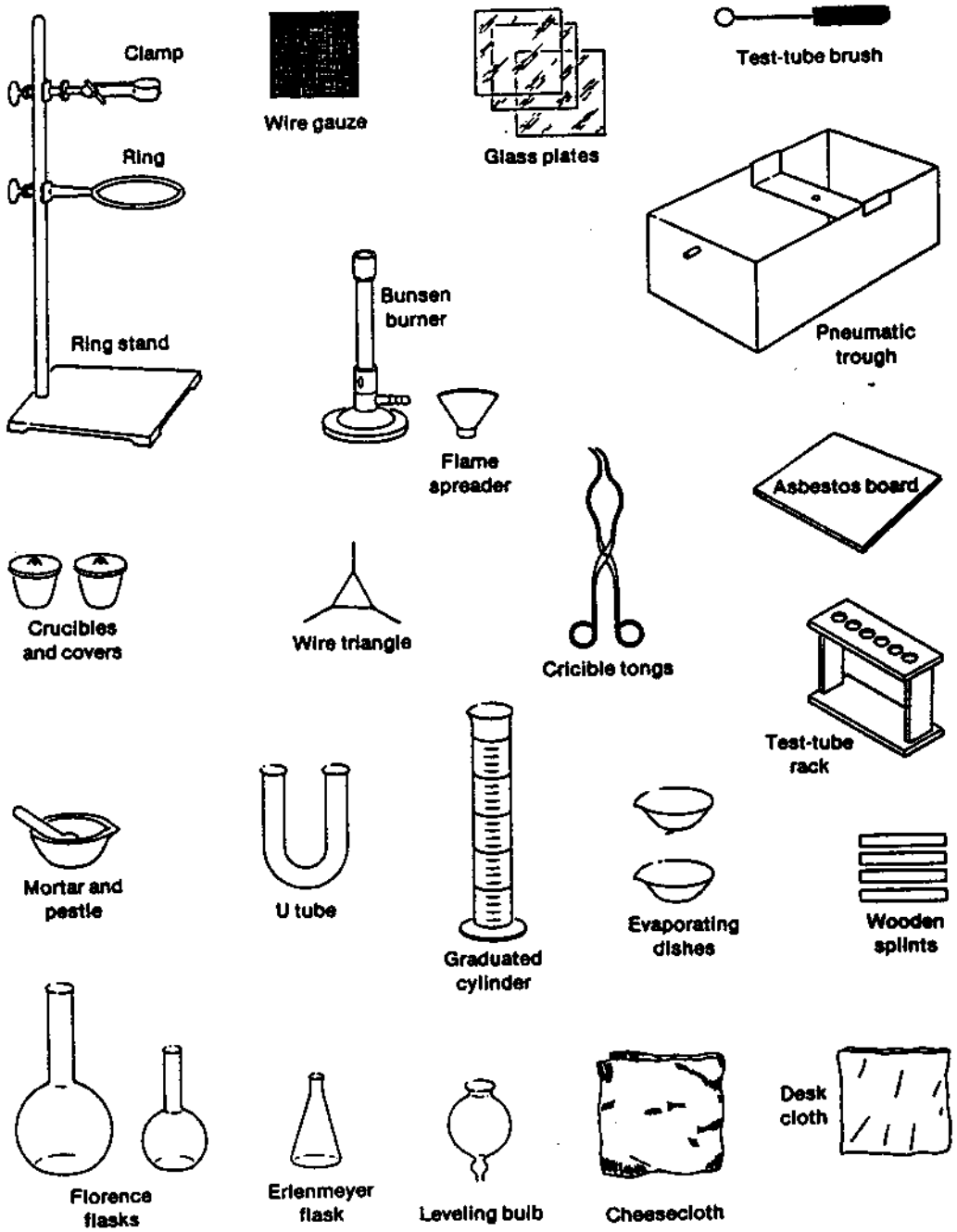


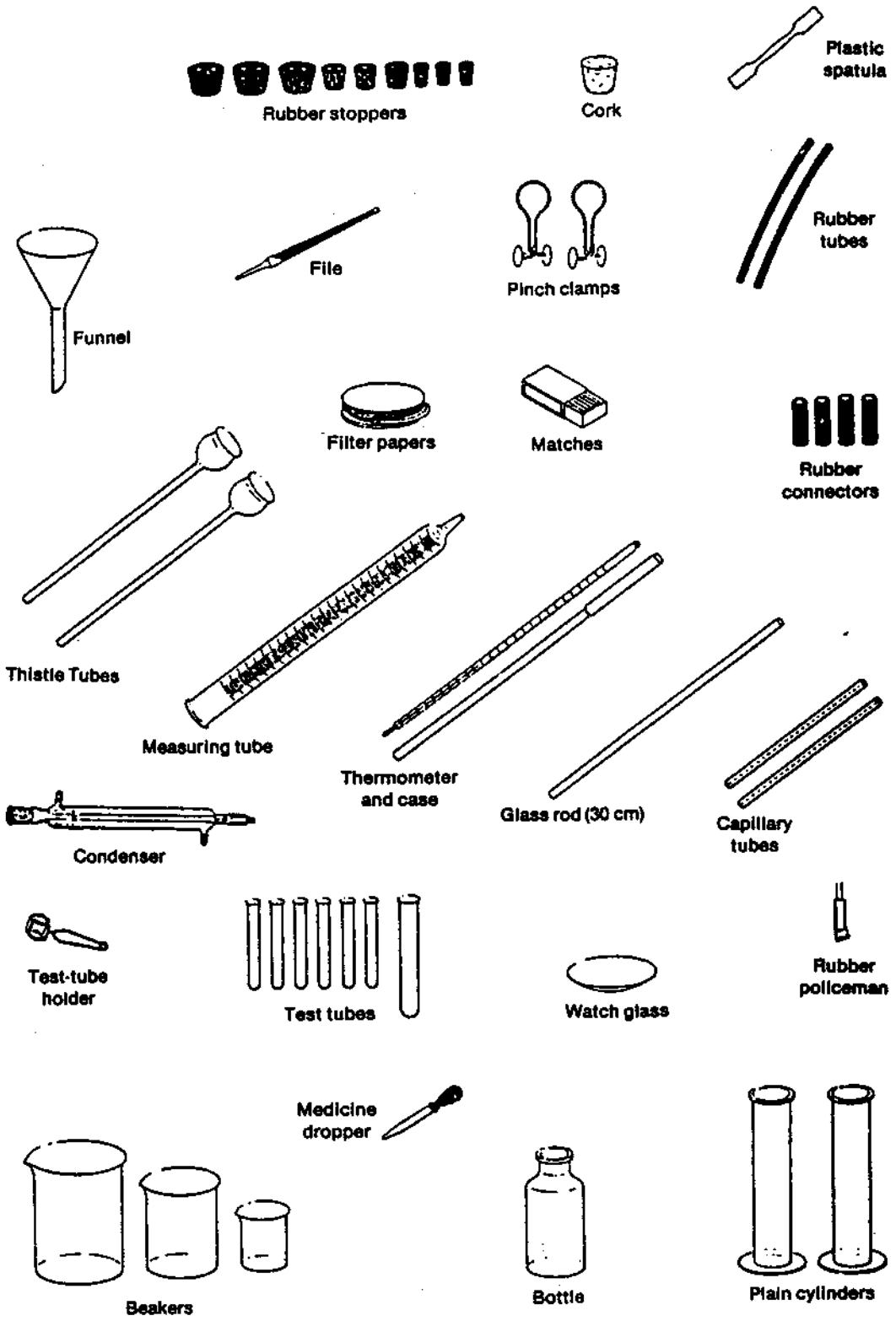
Heating Mantle:

Coiled nichrome wire encased in a solid molded structure form-fitted to various sizes of round-bottom flasks. Mantles give controlled and evenly distributed heat with a minimum of energy loss and can be used in combination with magnetic stirrer. Construction hints: To mold, coat flask bottom with paraffin; invert and support flask. Prepare mixture of asbestos fiber and Portland cement 50/50 by weight). Pack ¼ inch thick layer of this about lower half of flask bottom. Lay correct length of nichrome wire (see supplier's package for length/wattage ratio) in a spiral pattern lightly embedded into the cement. Brass screw terminals should be secured to wire beforehand. Pack more cement upon this to form solid, flat-bottom base. Allow several days to dry before using. Moisture within will destroy wire if current passes through it. When cement hardens remove flask. Attach-dury insulated wire with plug and dimmer switch to extended brass screws and insulate contact points with insulation cement. Insulation cement can be molded about nichrome wire before spiral pattern is laid for extra protection.



typical chemistry laboratory equipment




Rubber stoppers
Cork
Plastic spatula
File
Pinch clamps
Rubber tubes
Funnel
Filter papers
Matches
Rubber connectors
Thistle Tubes
Measuring tube
Thermometer and case
Glass rod (30 cm)
Capillary tubes
Condenser
Test-tube holder
Test tubes
Watch glass
Rubber policeman
Medicine dropper
Beakers
Bottle
Plain cylinders

Chemical and Seed Companies

Hagenow Laboratories Inc.
(Lab equipment)
507 Huron Street
Manitowoc, Wis. 54220

Labglass
(Lab equipment)
10373 Tennessee Avenue
Los Angeles, Calif. 90064

A. Hugh Dial
7685 Deer Trail
Yucca Valley, Calif.

W. Atleee Burpee Seed Co.
6450 Rutland
Riverside, Calif.

Columbia Organic Chemicals
912 Drake St.
Columbia, S.C.

Ferry-Morse Seed Co.
111 Ferry-Morse Way
Mountain View, Calif.

Germain's Inc.
4820 E. 50th
Vernon, Calif. 90058

Magic Garden Herb Co.
POB 332
Fairfax, Calif. 94930

Northrop-King Seed Co.
2850 South Highway 99
Fresno, Calif.

New Mexico Cactus Research
POB 787
Belen, N.M.

K & K Laboratories
121 Express St.
Plainview, N.Y.

Redwood City Seed Co.
POB 361
Redwood City, Calif.

Matheson-Coleman-Bell
POB 1622
Milwaukee, Wisc.