

# Elfspice's Compleat Acacia Extraction Guide

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## **WARNING**

Something that was drawn to my attention regarding the content of this document was that there is no warnings about the materials discussed with regards to the dangers and effects of the materials produced, and not enough about the warnings about some of the chemicals used (in particular, shellite/naptha).

### **ABOUT DMT**

DMT is widely regarded as the most potent psychedelic drug known. As has been said by someone else, the term 'mind blowing' could have easily been invented to describe this drug. **It is not a 'high', or a party drug or any such thing.**

To briefly sum up some of the sorts of nasty experiences that a person can have under the influence, it ranges from an experience of dying, being torn apart by vicious animals, being probed and having strange implants installed by cold uncaring aliens, extreme experiences of humiliation...

Now, after reading that list, one might wonder why a person would be interested in using this drug at all... Well, basically, because things completely off the other end of the scale can also happen during the experience. Contact with happy elves or clown-like entities, exchanges with entities who wish to teach you something, healing experiences, positive contacts with aliens.

The way it affects people is extremely idiosyncratic, but I can say one thing that is common to all experiences - it is always humbling, the awesome potency of this drug should not be underestimated.

### **MONOAMINEOXIDASE INHIBITORS (MAOI's)**

The use of monoamineoxidase inhibitors, such as syrian rue, banisteriopsis caapi or synthetics such as moclobemide, which is a common way to activate oral doses of DMT, should be done with great caution. There are elements in most people's diets and drug intakes which, when combined with the use of MAOIs can lead to a serious medical emergency if proper precautions are not taken prior to ingesting MAOIs.

**Monoamineoxidase inhibitors (MAOIs) should not be taken in if any stimulants (caffeine, amphetamines, cathinone, methcathinone), or SSRI antidepressants (prozac, citalopram, zoloft etc) have been taken less than 48 hours beforehand, the same goes for beer and wines, and there are foods which contain proteins which are dangerous if consumed within the same period of time, these are generally aged protein products (wurst, jerky, salami) and yeast-based products, such as yeast extracts, wines, beers and other brewed or fermented materials. Bread is not so bad, since the yeast is still fairly fresh when it is eaten, but at least 12 hours should be withheld to avoid problems. The main issues are aged proteins, which covers brewed alcohols, aged protein foods, and SSRI's and amphetamines are contraindicated, though the info on the dangers regarding MAOIs mainly applies to synthetic MAOIs (eg moclobemide). I have been told that syrian rue and harmala do not cause significant risk with amphetamines and fresh yeast products, however they do potentiate amphetamines. It is best to avoid them if you are unsure or have not done small scale tests to ensure it is safe...**

In most cases, one will only get a nasty headache, but it is best to avoid any of these things with MAOIs, recently a teenager made CBS news from mixing a MAOI with something of this nature (and of course the news people, not really interested in the propagation of safety information, didn't say what it was that caused the problem, however it would have been one of the above, as you can see it covers a lot of common foods and drugs).

What happens is the MAOIs prevent the action of the monoamineoxidase by preventing it from being synthesised, which stops these enzymes from breaking down chemicals in the brain and blood to prevent their levels building up too high. The natural cycle in plasma is of precursors, such as amino acids, being

synthesised into neurotransmitters by enzymes, and these neurotransmitters only have a limited useful life in the blood as free radicals and other agents can break them and cause toxicity problems (which is the suspected but not officially recognised cause of people going bezerk on prozac), and so they must be removed after a certain amount of time. Also a number of chemicals cause dramatic changes in physiology, such as stimulants, and the protein tyramine, found in aged proteins, which is a product of yeast I believe, and the monoamineoxidase enzyme is responsible for protecting us from this toxicity.

When an incident occurs with MAOIs, a mild incident will involve a headache, but if too much poisons are in the blood when the MAOI is ingested, they remain active, and what is called a 'hypertensive crisis' occurs. This means severe headache, high blood pressure and heart rate. **If the blood pressure gets too high, a stroke can occur, and beyond that, death from major brain haemorrhage.**

### **SAFETY WITH CHEMICALS**

In this document are described the use of numerous chemicals, the ones of most concern are the Non polar solvents (turpentine and naphtha/shellite) and sodium hydroxide.

I recommend the use of solvent resistant gloves whenever contact may be had with the solvents. One should be able to find nitrile gloves in the supermarket, they are marketed as 'non allergy', some people are allergic to latex apparently (personally I hate latex anyway, it makes my eyes red), there is also neoprene gloves available, but these will be easily distinguished by being thicker and 'insulating' will be mentioned on the packaging somewhere. Nitrile is the best to use as it is highly resistant to turpentine and shellite.

Turpentine is not so bad, and being such a high boiling material, it's vapours are unlikely to develop to an extent to cause breathing problems. However, shellite is very volatile, more volatile than petrol, and probably more explosive than petrol. **No sources of flame or sparks should be present when working with all nonpolar solvents, and one should take care to avoid inhaling the vapours as much as possible. Always work in an area with good ventilation when working with shellite.**

I have personally been burned by an explosion with shellite, it was only second-degree (the skin was fully damaged, but it hadn't gotten down to the flesh). I was in pain for three days, constantly spraying it with xylocaine spray to stop it from being so painful I was unable to fall asleep. It also put carbon all over the space that it exploded in. This was from inadequate ventilation and a spark from moving a pot around on an electric hotplate while blowing the vapours out of the pot. The vapours of shellite/naphtha are heavier than air, so they will fall downwards, so it is particularly crucial that there is nothing incendiary below any amount of such materials at close to it's boiling point. The vapours will also flash back to the source of vapour for quite a distance, at least two metres clearance should be given before anything with a slight risk (including a mobile phone) of causing a spark should be permitted nearby. It is also for this reason that, unlike numerous other guides, **I *don't* recommend heating the solvent when extracting.** Besides everything else, experience tells me that one does not need to increase the solvation power of 300ml of naphtha to get everything desirable

out of an expected 1-3g yield. The only time when it is sensible to heat naphtha is when recrystallising, and this can be done in open space using boiling water from a jug.

Sodium hydroxide (NaOH) is also very dangerous, anyone who has seen the movie 'Fight Club' would recall the scene where Tyler Durden puts a pile of this material onto the protagonist's hands. When it comes into contact with water it reacts with a very strong exothermic reaction (it generates heat), and for this reason the **NaOH should always be added to water and not the other way around** as this ensures that the heat is absorbed by the water, rather than the heat inducing the hydroxide to react violently with the humidity in the air, and it can in fact explode, spraying highly reactive material everywhere, and when this gets on the skin or in the eyes, it burns severely.

**It is recommended when working with sodium hydroxide to wear protective goggles in case it splashes in the face, it can destroy your vision .**

## Acknowledgements

I would like to acknowledge the contributions of various people who have helped me gather the information I have assembled in this document. Thankyou to Yjanni, Mescalito Ted, Yoda, Quantum Tantra (for her wonderful guide), Meme (for the recrystallisation information and for sharing my passion for improving techniques and administration), Carpedmt (for highlighting the fact that extractions do not need take a long time, and for introducing me to acacia obtusifolia), Silicon7 (for his knowledge of proper chemistry procedure and help with materials), and his cat Moofie who's presence in the lab greatly amused me, Rhodium (who's excellent chemistry knowledge and great information resource <http://www.rhodium.ws/> and the hive <http://www.the-hive.ws/>), Gastro (who provided my first few quantities of acacia extract many years ago), Mulga (for his very informative and useful site), Mesqualero (for moral support and for inspiring me to create a more clear format for the instructions and notes), Andrew (for his report), Eccles for his excellent pKa info on DMT, Glorfindel (for pointing out the need for pH 12.5 or higher for polar washing which, sadly are a bad idea as it turns out), Gumby, for emphasising the safety factors, Bluetonguedragon for his encouragement, Ion for his excellent explanation of eliminating tannins and dry extraction techniques (which I don't explain here), all the people who have emailed, pm'ed and instant messaged me with praise for this, and anyone else who I have gathered information regarding this process who I might have forgotten.

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## Introduction

I have written this guide to specifically cover the process of extracting alkaloids from the Acacia Obtusifolia tree's bark, which is the most consistently yielding of the acacia species with regards to it's yield of psychedelic tryptamines, primarily

N,N Dimethyltryptamine. It is equally applicable to *mimosa hostilis*, and is likely to be useful for any other DMT source contained in the bark of a plant (eg, *desmanthus illinoensis*). Chlorophyll laden sources, such as *phalaris* and *psychotria viridis* et al have not been studied by the author, however at some point in the future the special considerations for these leaf materials will be added.

One thing that I have learned in recent months about the process of extracting alkaloids is that the long periods of time suggested in older guides are unnecessary, this suspicion started to come to me when I witnessed the acid/base extraction of alkaloids from an alkaloid synthesis and saw that the alkaloids can in fact cross phases in a matter of minutes, not hours or days.

Taking care to ensure certain pH levels are used also eases and improves the process, specifically in the acid phase the pH is better if it is about 4, and in the extraction less emulsion problems occur when working with a pH above 12.5 (sodium hydroxide does not raise the pH above 13.5 when diluted 5g/100ml, so the concern about 'pH spikes' is unnecessary so long as the base is diluted). When washing and extracting, use gentle agitation rather than violent, swirl, stir or turn it end over end gently rather than shaking it. Water washing is less of a problem in this respect, usually by that stage the majority of emulsion causing chemicals have been removed.

Something else which I have heard from others, which I have now verified, is the value of doing washes. Previously washing was little mentioned, and only the wash of the acidic extract was suggested (and again, a much longer than necessary time stated), when in fact the best results seem to be from doing a non polar wash of the acidic extract, and using a fairly low pH (like 8-9) and no salt, for washing the non polar extract (the best procedure seems to be using sodium bicarbonate as it reacts with sodium hydroxide to produce sodium carbonate, which more readily comes free of the nonpolar fraction). Washes ensure the resulting product is as free from contaminants of a non-alkaloidal nature as possible, in particular residuals of the base being used. Again, gentle agitation is completely sufficient for extractions and washes, and in the case of water washes, violent agitation will not alleviate suspended droplets of the base, the bubbles of the wash water, being alkaline, will wash some out, but will also leave the suspended bubbles of base in the nonpolar solvent, though by this stage in the process it doesn't matter as much as it should be quite clean already.

Finally, the best methods for recrystallising the product seem to be coalescing for me as well, I will talk about this at the end, the purpose is not, properly speaking to make pretty rocks, though if large crystals are produced they have a longer shelf life due to lesser surface area per volume, but instead, the purpose of recrystallising is to eliminate the contaminants in the solvent commonly used (naphtha), as well as reducing other contaminants. This requires slow cooling or progressive cool/warm steps.

This guide will not attempt to cover the extraction processes for other plant materials, however it is intended to be comprehensive and to the point, and should apply more or less to other materials.

I will also focus on the equipment which will ensure the best results with the least outlay without any compromise of efficacy of the process.

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## The Plant

This guide is specifically targeted at the acacia obtusifolia, I cannot really enlarge upon other information already available through libraries and on the internet, but I intend to replace this section with a comprehensive guide to finding them based on a series of expeditions to likely locations and lots of photographs, and, of utmost importance, in plain english.

One of the problems with the botanical information regarding these plants is that they never go into much detail about the bark structures. When walking through a well developed forest, quite often the tree is so far above you that you can't see a thing of what they describe in the botanical description. As soon as possible, a photographic expedition will be made to bring back good photographs of the plant in it's mature natural state. The full extent of the obtusifolia's habitat is not fully known, it may well be more common than is currently thought.

The guide should be applicable to other sources of DMT, as the method described is very thorough.

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## Equipment and Chemicals

Other, more advanced chemistry equipment can be used for this process, however my aim is to only talk about what I believe to be the minimum standard to ensure the best possible results.

1. **Large Cooking Pot** - for beginners it is wise to start small, 2-4L soup pots are good for this. **Do NOT use aluminium pots for this stage, even organic acids will take up some of the aluminium oxide on the coating and the aluminium will react with strong acids to produce aluminium salts (eg aluminium chloride) and this is not something that one wants to need to get rid of, let alone ingest.**
2. **Glass baster** - this is a large pipette used to suck up oils from fowl being roasted in the oven and coating them so they get nice and golden crispy on top. A baster has a long glass tube and a rubber squishy thing at the end and it works like a dropper. Generally they can hold about 30-40ml. Glass is essential because these devices can be used to separate immiscible phases. These devices are available at most kitchen shops. I just want to emphasise again - make sure it is glass - some of the solvents used will attack plastics (especially nylon, which is the common plastic baster material because of it's high melting point) and metal is completely useless for this purpose. Also it is good if the device has a tip on it which is very narrow for half a centimetre or so, this improves this device's ability to precisely separate fractions and how well it holds the fluid when removed when held mid-air.

3. **pH meter** - In my opinion it is worth the money to get a good pH meter. These can be purchased from hydroponics shops and aquarium shops, they are commonly called 'pH Pens' or something similar. When getting a pH meter be sure to get an ample container of pH 7 'buffer' solution for calibrating it, and do this at least once a month. pH papers can be used, however the extract has a very dark reddish colour and stains the papers. The only type of paper test which is suitable is the type with four different tests on each strip, and the reason why I suggest using an electronic tester is that dollar for dollar, it is hard to see what the effective advantage is, for the cost of 400 strips one can have an electronic one, and the electronic testers are accurate (if calibrated correctly) to about  $\pm 0.05$  pH units, though this is not critical, using precisely measured pH levels every time is helpful in generating consistent results as the exact pH levels influence solubilities of various constituents of the plant material, and the best policy is to try and pick a pH which dissolves what you want and as little of what you don't want. Bear in mind that every extraction requires about 10 individual pH tests, thus for the same money as you can do 400 extractions with paper tests, you can do well over 1000 with a pen.
4. **Large Jar** - a jar like the ones that cranberry juice is sold in is perfectly suitable for the task, though a 2L canning jar can serve quite well also. If a canning jar is used, it should be tested with turpentine to ensure that the rubber used on the seal does not get damaged by it. The juice bottles also have the advantage of being able to rapidly vent, the clips on canning jars require much more time to open when venting. Shellite is safe to use with most common HDPE plastic bottles, but these bottles are unsuitable for use with aromatic solvents such as turpentine, xylene or toluene, which I suggest using. An empty turpentine bottle is suitable also. This is the container that the extractions and washes will be done in, so it needs to be as large as the quantities of material you work with, and the opening big enough to permit the use of the baster.
5. **Colander** - to catch bulky fibrous material from the acidic extract.
6. **Strainer** - This will catch the larger particles.
7. **Fine Strainer/Tea Strainer** - this will catch medium sized particles, which will block the coffee filters.
8. **Cotton, Acrylic or Polyester felt** - common pillow stuffing can be used here, so long as this is done before doing the Non polar washes. This material catches a *lot* of fine particles, it functions as a 'depth filter', which is a thick filter which is used to remove the majority of large and medium sized gunk before using filter papers. This kind of filter will also be helpful with the gunky gooey materials that are sometimes present.
9. **Coffee Filters** - to filter finer particles out of the solution. Particles of bark will make seeing the line between phases in the Non polar wash difficult to see. The coffee filters can be good for removing hairs and other junk when recrystallising as well.
10. **Pyrex Measuring Jug** - this is helpful with filtration and removing extract from broad containers (such as cooking pots) as well as measuring solvents for extraction and washing.

11. **Drying Dish** - The dish should be deep enough to accommodate the amount of solvent used. Ceramic plates can be used too, ones with gentle curving edges and plain white glaze are quite good for being easy to scrape, though they can only have about 100ml in them. Several such plates would be necessary for an extraction - this can be a good thing for seeing what each consecutive pass gets out.
12. **Scraper Blades** - These are essential for scraping up the final product, the best ones are the single sided ones used for removing stickers from glass. They have the advantage of being easy to handle and able to bend slightly for getting around corners in drying dishes.
13. **Acid** - I recommend tartaric acid, which can be bought from supermarkets from the cakes and lollies section. Other acids can be used, but hydrochloric acid, in particular, should only be used with fully intact enamel pots or with pyrex pots. Tartaric acid is handy because it only takes a teaspoon to turn 10L of water to around pH 3-4. Citric, acetic, and ascorbic acids can be used too, though beware of acetic acid if DCM is used in nonpolar washing as the acetate salts of DMT are fairly soluble in DCM
14. **Base** - Sodium Hydroxide (NaOH - often sold as drain cleaner, but be sure that the drain cleaner you get says '99% sodium hydroxide', it is also known as 'caustic soda' and in the US the brand Red Devil Lye is allegedly good - in fact anything called 'lye' is a base, but traditionally it was potassium hydroxide), Potassium Hydroxide (KOH, sold at hydroponic shops as pH up, and used to make liquid soaps). NaOH and KOH are both strong bases and should be dissolved 1:10 at least before using (premixed solutions from the hydro shop are fine as is). Some suggest using ammonia, but domestic sources of it are not as clean as NaOH, thus I do not recommend it.

**Always add sodium hydroxide and potassium hydroxide to water, and not the other way around. When working with strongly alkaline solutions it is recommended to wear safety glasses and gloves.** Read my warning for more information

15. **Non polar Wash Solvent** - Turpentine (paint thinner, available anywhere, dissolves oil paints), toluene (commonly used as an octane booster, also used to dissolve vinyl glues, for laying vinyl flooring), and xylene (available in many hardware stores, I have heard of it being used to remove the resins that are used to coat tiles - presumably urethanes). The aromatic solvent is used in this technique because it dissolves a lot of stuff, in the defatting stage, where a solvent which clears a lot of gunk is useful. I recommend turpentine for the simple reason it is much easier to get, much cheaper, does the job just as well, and is less toxic.
16. **Extraction Solvent** - There is basically three choices for this, and which one used determines how one must do the separations. Ethyl ether (from automotive stores as starter spray) and methylene chloride (also known as dichloromethane, or DCM) both share the property of having a very low boiling point (around 40°C) and consequently, when using them at room temperature, using a turkey baster, sucking up these solvents will be an exercise in frustration. The solvents evolve a lot of gas, often at higher than



ambient air pressure, so they pump themselves straight back out. Thus if a turkey baster is used and the Non polar is one of these, one must remove the polar phase, as this will not cause the same problem. With DCM this means pulling the top layer (DCM sinks) and ether, pulling the bottom layer. A separatory funnel makes the use of DCM much more enjoyable, since the tap is at the bottom and that's where the DCM ends up too. DCM also absorbs a lot of the desirables very quickly. Naptha (aka shellite) is readily available, and is easy to work with using a baster.

**Be very careful with shellite and ether, they are highly volatile and explosive.** Read my warning for more information.

Dichloromethane can damage the lungs, care should be taken when using it too.

17. **Recrystallising Dish** - From limited experience, it seems that the best container for this is a dish which has a curved inner surface (like a noodle bowl), and plastic wrap is used to prevent the solvent from rapidly escaping. Scraper blades will probably need to be bent into a curve to scrape the edges properly, though a scalpel might serve better for removing the crystals. A double layer of plastic wrap is good for ensuring that it doesn't stretch down too much when it cools (the gas trapped inside will contract when it cools).
18. **Recrystallising Solvent** - Due to it's higher boiling point than any other available, and it's fairly reliable homogeneity, if possible, the best solvent is isopropyl alcohol (IPA). Naptha will also work, though the lower the boiling point of the solvent, the more it will evaporate away while handling, which can be a pain. Acetone can probably be used, as can methanol and ethanol. Ethanol seems to need very little to dissolve the material, which can be problematic with very small quantities (a gram or less). Slightly polar solvents are good in this step as tannins dissolve quite well in them, if they get to the final product. Acetone and ethanol have not been tested as far as I know, but I do know that acetone dissolves DMT freebase quite well
19. **Dropper Bottle** - This is used to transfer the hot recrystallisation solvent into the recrystallisation dish (specifically, the dropper)
20. **Nitrile Gloves** - most domestic glove manufacturers now sell a special kind of glove for people who are allergic to latex (IMHO latex is nasty anyway), there are two types, neoprene and nitrile, the former are thicker and are particularly good for handling hot liquids, the latter are good for handling Non polar solvents, particularly aromatics which will very rapidly decompose latex. I have come to the conclusion that it is crazy to work with these materials without using good protective gloves. In particular when agitating washes and extractions involving highly volatile solvents (ether, dcm, naptha) this permits venting of jars without exposure to the solvents.
21. **Safety Glasses** - This is recommended for any stage involving the use of sodium hydroxide, and to a lesser degree, non polar solvents, as protection against damage to the eyes that can occur. In particular, sodium and

potassium hydroxide can burn the eyes and even blind you if they damage the eyes enough.  
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## Step 1 - Prepare the Bark

The bark must be prepared for extraction, a simple but effective method that can be used is to simply pull strips of fibres off using fingernails (or assisted with a pocket knife) so that thin pieces are removed - this must be done when it is still fresh. The bark can be cut up into small pieces and put through a blender or coffee grinder, this is best done when dry, though cutting it up when dry can be difficult, it would be best done when still fresh (it is best to ensure cutting goes from the inside of the bark to the outside because the inner fibres are long and resistant to being cut). If bulk quantities are being worked with (like 10kg or more) a mulcher can be very effective. A small garden shredder is very helpful in any case, and for anyone intending to powderise the material, it needs to be broken into small pieces before putting into a blender.

The more the bark is munched up the faster and more thorough first two steps are.

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## Step 2 - Acidification

This step uses an acid to make the tryptamine alkaloids soluble in water - the acids ionically bond weakly to the amine tail of the tryptamines and render them soluble in water like any other salt.

This permits other elements in the solution which are less soluble in water and sparingly soluble in water to be removed in the next step.

Prepare a solution of water with the pH adjusted to 3-4 with the acid you are using.

Add to the plant material to the solution, either soak (a couple of hours for powdered material, overnight or longer for less finely shredded material) or simmer for 1 hour.

Pour off the liquid and repeat two more times with more acidified water.

Combine the extractions and reduce on gentle heat to a workable quantity (about 1L)

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### Step 3 - Non polar Wash (Defatting)

This step uses the fact that the alkaloids are now well dissolved in water to permit the use of an aromatic solvent (which would readily dissolve the alkaloids in freebase form but not as the salt) to thoroughly strip anything from the solution which will contaminate the product at the end of the process.

There is significant likelihood that the bark contains small amounts of histamines, which will be removed by this as well; in susceptible persons, histamines will cause the throat to constrict and make breathing difficult when smoking the product, which is an unpleasant side effect that is best avoided. Aromatic solvents are suggested in this step because they dissolve more than any other Non polar solvent, and thus clean the product more than ether, chlorinated solvents or naphtha/shellite.

Pour the acidic extract into the separating container (separatory funnel or jar).

About 100ml of the aromatic solvent (toluene or xylene, or at a pinch, 200ml of naphtha) is added and the jar is gently agitated (swirling, stirring, end-over-end)

Separate the aqueous phase from

*Aromatic solvents are used in this step because they have high solvation power, and will remove anything that might contaminate the final product.*

*Adjust the volumes of solvent upwards in the case of lesser solvents (such as naphtha) to ensure it pulls as much of the gak as possible, also use more solvents if one is working with a larger quantity of material*

the aromatic solvent phase.

Repeat the wash with the aromatic solvent two more times.

Do a final wash using the solvent that will be used for extraction to remove any excess aromatics suspended in the solution.

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*The reason for doing more non polar washes is that the primary contaminants in the product is usually from not doing sufficient washes at this stage*

*This is done to eliminate the majority of the high boiling aromatic solvent from the solution so when it is extracted the high boiling component of the solvent is reduced. If there is materials that boil at a significantly higher temperature than that of the DMT (i.e. much more than 120°C) the DMT will not crystallise or dry properly, as it will boil before the solvent it is mixed with. This is known as 'oiling out' and is best avoided if possible.*

## Step 4 - Basify to pH 13

In this step the pH of the now washed extract solution is raised to 13, which will drive the alkaloids out of the water by binding up the acids that caused the alkaloids to be water soluble.

Mix up a solution of the base - for sodium hydroxide, 5 teaspoons to 250ml is sufficiently dilute.

Add the alkaline solution slowly to the acidic extract, stir well while adding the base.

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*If one is concerned about pH spikes from introducing a solution this concentrated, twice as much water can be used. The pH of the solution made via the instructions to the left is around 13.5 or so, and really it isn't too strong. The main thing is adding it slowly while stirring.*

*There are many ways to do this, some people use a baster to transfer the solution, and use it to stir and pump the solution around, it can also be added slowly by pouring it in while stirring with a skewer. I don't recommend basifying in one container and then transferring to another. The DMT can stick to a lot of plastic and glass surfaces, and ideally one wants to get as much of it as possible.*

## Step 5 - Non polar Extraction

Making the pH to 13 drives the tryptamines back into freebase form, in which they are insoluble in water. They are, however soluble in Non polar solvents, such as the ones described as suitable extraction solvents (ethyl ether, DCM and shellite/naphtha). This property permits the separation of the freebase from the basified aqueous extract solution. Using a pH this high also eliminates emulsions.

Add a quantity (100ml is a good amount for an extraction with an expected yield under 3g) of the extraction solvent to the basified solution.

*The amount of solvent to use depends a lot on how much you expect to get from the plant material. As a rule of thumb, 100ml of naphtha/shellite will dissolve about 1g of DMT, less is needed for dichloromethane and ether, though the amounts must be kept practical for the separation method being used. Also note that using an excess of solvent may result in more being extracted than desired. This is particularly the case with naphtha.*

Close the container gently agitate, periodically vent to release pressure

*Some guides recommend heating the extraction solution to increase how much it draws across when doing this, I must stress that this will dramatically increase the amount of pressure that will be generated by the agitation, having almost lost my vision from not venting a jar of hot shellite and having the jar pop and spray everywhere, I don't recommend heating the solution at all. Some guides say 'keep the base cool and the solvent warm' - this is not physically possible, the heat in the total solution will very rapidly equalise, especially if it is shaken vigorously.*

Separate the nonpolar solvent from the basified solution.

*Because the pH is high, at around 13, and because the solution has been thoroughly washed, it will not form stubborn emulsions, the differentiation of the layers usually is almost perfect within 5 minutes. It is not necessary to wait long - 5 minutes of gentle agitation and 10 minutes of settling is usually long enough for each pass*

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## Step 6 - Polar Wash

This step is done to eliminate any residual polar soluble contaminants present in the Non polar extraction. The main concern is the base itself (which burns hot and makes the product harsh), though there is also problems involving contamination from the aqueous fraction also, plant substances etc. Generally speaking the stuff washed in this step will not prevent crystallisation if

left in, but it should not be left in because it is just yucky.

Add an excess of water adjusted to a pH of at least 8.5 to the non polar extract solution.

Agitate the mixture gently for about 5 minutes, let it settle before proceeding

Remove the water from the nonpolar extract, and repeat this wash two more times.

*Gentle agitation is essential to ensure that no microbubbles of alkaline wash water remain in the nonpolar extract solution. If violent agitation is used, one should use plain tap water, but I don't recommend violent agitation, basically it is unnecessary*

*Repeating the wash three times will ensure that none of the base or other polar soluble undesirables remain in the solution. This step is critical for removing residual hydroxides and salts of the acid and base being used. If this step is not done properly, the hydroxides will react with the freebase and destroy them, not to mention burning the throat.*

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## Step 7- Evaporate Non polar Extract

Next, put the combined Non polar extracts onto a drying dish, something that will permit the easy scraping of the materials.

Using an electric fan to blow the drying dish vigorously is a good idea, it dramatically increases the rate at which the solvent evaporates off.

If the proper equipment were available, a vacuum desiccators would be even faster, and would permit recovery of the solvent, though this is not accessible to most people who wish to do this process. The shellite evaporates very quickly anyway, and ether and DCM are even faster.

Although it probably helps with getting all of the extract out of the dish, it is not absolutely necessary to bring it fully to crystallisation at this stage. This will take at least 12 hours to fully happen under a fan. The extract is easier to remove from the drying dish if it is fully dry as it has a much harder consistency and comes free of the glass much more readily.

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## Step 8 - Recrystallisation Purification

This step is done to refine the product further, and indeed can fully purify the extract to translucent crystals. The longer this stage is done, the larger the

crystals can become.

When recrystallising, the idea is to use a solvent which dissolves undesirable elements better than the desirable element, hence with study, the best possible solvent or mixture of solvents can be developed to clean the product most effectively.

This step eliminates contaminants in the product which will make it harder to smoke.

Heat the recrystallisation solvent until it starts to boil by sitting in a container over water heated in a jug.

*A good container to put the recrystallisation solvent in is one which has a dropper in it, as you can simply let it sit in the water until it gets to the same temperature as the water, and then you can immediately drop the solvent onto the freebase.*

Place the scraped up product from the previous step into the recrystallisation container and allow the container to get nice and warm.

*Be careful here not to let the freebase get so hot that it boils, as this will cause a loss of product*

Slowly add the hot solvent to the warmed recrystallisation container, stirring and agitating until all of the product is \*just\* dissolved.

*The idea here is that the minimum amount of solvent, at the highest temperature possible (at which it will dissolve the most possible product for the volume), which, when cooled will not dissolve the product very well at all, and thus it will precipitate as crystals.*

Seal the recrystallisation container.

*A jar can be used for recrystallisation - when the product crystallises hard as it does in this process, it can be scraped out using a scalpel or a piece of wire. If using a beaker or bowl, a double layer of plastic wrap is recommended, and fixed in place using a rubber band. Sealing the container simply prevents the crystallisation of water when the container is put in the freezer.*

Let the container cool to room temperature.

Alternate between the fridge and outside the fridge every hour or so for as long as you like.

Then alternate between the freezer and the fridge for another period of time.

*The colder temperature causes crystals to precipitate, and then warming them again dissolves the smaller crystals more rapidly than the larger crystals.*

*When done for long enough, this favours the formation of large homogenous (containing only one substance) crystals. In the case of acacia obtusifolia, there is only DMT and NMT. The NMT forms an amorphous yellow resin, and with the correct choice of recrystallisation solvent, can be selectively removed, leaving behind only the DMT, which is a translucent waxy crystalline substance.*

*The DMT, in any case, (and I think this applies to 5 methoxy DMT) is a clear crystal, the yellow or brown or red colour common in extracts is not from the DMT. It improves the resulting size of the crystals if the initial room temperature/refrigerator stage is done for a lot longer, this causes the crystal cores to trap less contaminants.*

While still at freezer temperature, discard the solvent (it has very little in it of value).

*Because the extract was **just** dissolved at close to its boiling point, at the temperature in a freezer there is a very insignificant amount of the desirable alkaloids remaining in solution. With the right choice of solvent, the DMT can be preferentially precipitated and thus isolated from the other components in the extract.*

Repeat up to two more times

*If done more times, the extract is much cleaner.*

Dry the final recrystallisation.

*When the extract is very pure, the product will be very easy to remove from the container. A scalpel is a good device for this, one with a curved blade.*

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## Conclusion

I have written this extraction procedure in the hope that others who find the lack of clarity and good chemistry information in most guides offputting, also this guide exposes a number of myths regarding times required for processes, in particular the Non polar extraction. The product resulting from following this guide, assuming one begins with a good source, should be just about as pure as the product can be made. Also, if a neophyte follows this process, and they have started with good material (good material is equally important as the right technique, you can't get gold out of you put garbage in), is guaranteed to get a good result.



I will be revising this process until it becomes clear that it covers the topic in a thorough and concise way, it is my hope that this document will ease the transition from neophyte to journeyman that can be extremely frustrating and drawn out. Accurate information will ensure that so long as the directions are followed, good results will come out at the end.

Reports of using this guide will be appended to the end, I encourage anyone who has had success with this technique to send me their reports so I can add this to this document to demonstrate the efficacy of the technique, and to encourage neophytes to keep trying if they do not do as well as they expected.

One final comment, most people will not get as much as they hope for out of extractions. Over a process of a number of extractions one gets a better idea of how much to expect, the visual appearance of quantities of freebase of various weights will take a while to know, as will the amounts of plant material that produces it, and in some cases, the right times and ways to collect the material will also influence the results. Do not be disheartened if yields are lower than you expect, only experience will teach you how much to expect in practice.

Elfspice

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## Extraction Reports

Need I say it, all of these reports are from people who have done these processes where doing so is legal, and all are anonymously sent to me to add here.

### **Mimosa Hostilis Extraction (13 April 2003)**

Materials; A few 500ml flasks/beakers, a jar, separatory funnels, vacuum hand pump, glass funnels, cotton, cheese cloth, evaporation dish, PH papers. I used Mimosa Hostilis Root Bark, Muriatic acid (HCL), Lab grade Sodium Hydroxide (NaOH), distilled water, and Naptha (evaporates cleanly).

I started by boiling 325ml of distilled water, then took it out of the pan and into a beaker where I acidified to a PH of about 3 or 4 using muriatic acid.

Then I poured this acidic water in a jar containing 88.4 grams of finely powdered mimosa hostilis root bark. Since I used hydrochloric acid I decided not to add all three acidic water extracts together and reduce volume because I didn't want to concentrate the acid.

So what I did was each of the 3 extracts on there own. After putting the acidic water with the root bark I waited 1 hour and poured the liquid/root bark into a cheese cloth on a beaker, and squeezed all of the water out. I then took the dry root bark and put it back in the jar with the same amount of acidic hot water as the first time.

And while waiting another hour for that to finish up I filtered the liquid from the first extract into a funnel with cotton and a vacuum pump connected to the flask.

Then I defatted by putting 80ml of xylene and throwing away the

xylene/emulsion. I defatted 2 more times with naphtha(80ml). Then I basified with NaOH, when it was about half way threw I added some naphtha and kept basifying until it turned a slippery black type colour. Then I separated the naphtha with the emulsion and added 80ml of warm naphtha. I separated that naphtha/emulsion and added another 80ml of warm naphtha. Again I separated and kept the naphtha/emulsion.

Now I took the naphtha/emulsion and added some PH 8 distilled water and threw away the water. This got rid of most of the emulsion, I put the rest in a graduated cylinder to further separate. I washed the naphtha 2 more times with PH 8 dH<sub>2</sub>O.

I evaporated the naphtha via fan and dish to reveal .4grams (400mg)of white fluffy crystals. By this time the second soak of root bark was ready to be further extracted so I put that through a cheese cloth and cotton funnel and then put more acidic water with the root bark.

I defatted this time with only naphtha 3 times. Basified and extracted and washed just as before. I evaporated this to find .22grams of crystals. I extracted the last of the acidified water by filtering, defatting, basifying, added naphtha, washed naphtha and evaporated just as before to get .06grams of crystals.

I did this whole extraction in under a day, and my yield tells me I really don't have to wait as long as some teks say. My total yield was .68grams of spice from 86.4g of mimosa root bark. That's .4grams the first one, .22 the second and .06 the third one.

As you can see the last extract is low but not completely insignificant. If I were doing an extraction with a different acid like say acetic(vinegar) acid I would have combined my extracts and boiled down to about half or 1/4th it's original volume, but since I used HCl I decided it would be better to do each separately.

## **Photographs of Mimosa Hostilis Extraction**



Dry Mimosa Hostilis Rootbark



Ground mimosa hostilis rootbark





Mimosa hostilis rootbark soaking in acidified water



Filtering the liquid from the rootbark soak

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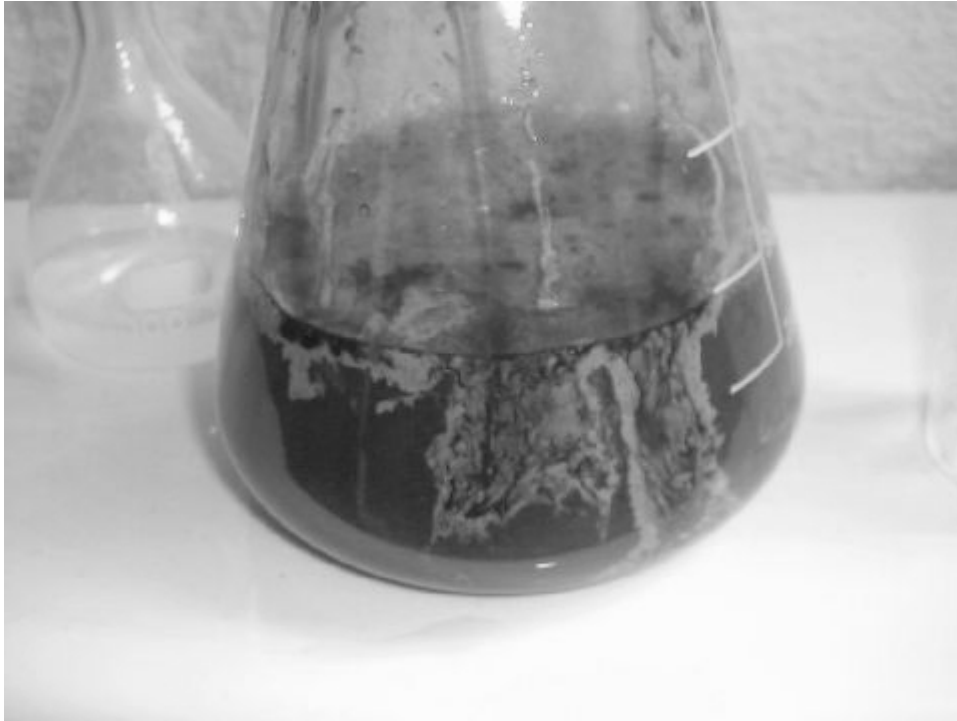


Defatting the acidic extract (see the colour in the naptha layer?)



Basifying (notice how the base immediately makes the solution turn opaque pinkish)



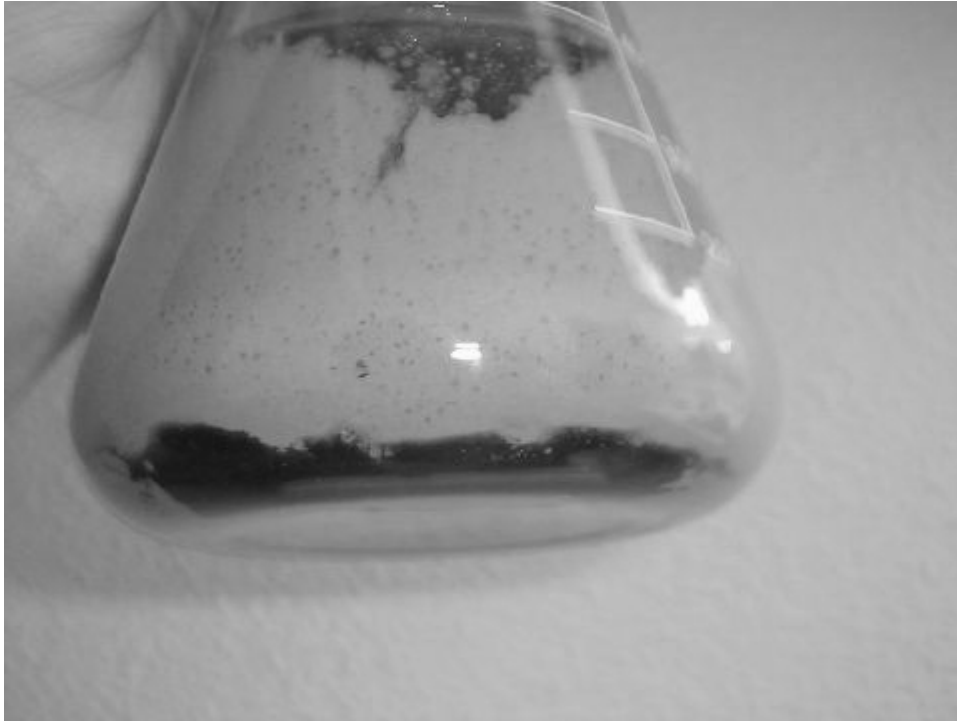


Basifying



Basifying  
when the solution is fully pink, the pH is between 10 and 12,





Naptha added to basified extract - as it turns black (seen here at the bottom of the flask) the pH is over 12 - this is how high it needs to be for proper extraction

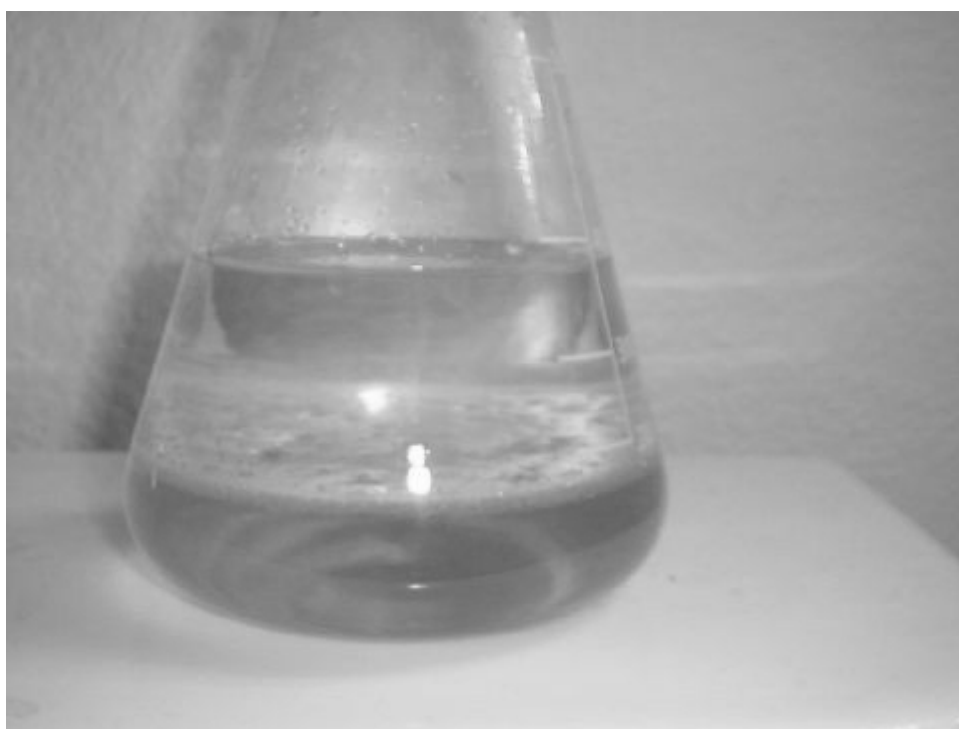


First extraction run (see the pink stuff - that's emulsion, wait until it settles and the margin between the layers is mirror-like)





Water washing (note the dark colour in the lower layer - this is why you water wash) (also, for this first step, use sodium bicarbonate as this will eliminate the residual sodium hydroxide, transforming it into sodium carbonate)



Water washing - see how it gets lighter







Water washing - never stop water washing until there is absolutely no colour in the water being used to wash with



Crystals

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Crystals scraped together (note how clean looking they are - this is achieved through proper defatting)

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## Changelog

12 April 2003

Elfspice: First draft written

13 April 2003

Elfspice: New instruction format implemented - using simple instructions on the left and notes and clarifications on the right. This makes it a lot easier to read. The recrystallisation technique was condensed to one step. Thanks to mesqualero for the idea

14 April 2003

Elfspice: Prettified the two column sections by making all the note columns grey coloured, added a report, fixed the paragraphing. Thankyou to andrew for the report.

15 April 2003

Elfspice: modified polar wash directions to specify using water basified to at least 12.5 after a suggestion from glorfindel from DMT world.

16 April 2003

Elfspice: Added notes about doing further filtration.

19 April 2003

Elfspice: Expanded filtration information, added a 'warning' section (thanks gummy), added more equipment to the equipment section (strainers, filters and safety glasses).

27 April 2003

Elfspice: Made minor corrections, refined the notes a little bit, removed the use of high pH water for the water wash, removed the reference to ammonia as a base due to it's not being available anywhere near as pure as NaOH, reduced the section on the acid to only specifying tartaric acid, and mentioned the incompatibility of hydrochloric acid with any kind of metal.

1 august 2003

Elfspice: added a sequence of photographs showing the all the steps of the process

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This is in reference to Elfspice's Complete Acacia Extraction Guide.

1Q During the washing stage, elfspice says to add water to the NP solution, but never says how much to add. Ive read reports to be as little as 1% the solutions volume, but the practicality of trying to separate 3ml of aqueous solution is pretty minute. Is it ok to put in 100ml per 300-500ml NP solution? Is there any reason why it is suggesstion to add a minute amount?

2Q Recrystalization:

Elfspice describes the process as adding heated NP solvent to the goo that was left over from previous evaporation. Then sealing the container this was done in and putting it in the freezer. Then pouring off the solvent because it has little DMT in it. Then taking whatever's left behind and putting it through a constant state of temperature change to promote crystal growth.

However, others had said that the main purpose of recrystalization is to have the unwanted stuff sedimentate at the bottom. This is done by adding warm solvent to goo, putting it in the freezer/fridge, then saving the solvent by pouring it into an evaporation dish.

The problem: One says to throw away the solvent, the other says to keep the solvent. One says the stuff at the bottom of the container is what you want, the other says that stuff is what your trying to get rid of.

Also, my solvent, naphtha, boils at room temperature. I think this is more of a petroleum ether ive gotten from distilling naphtha. Should i still try to heat it up? isnt heating petroleum ether extremely dangerous?

Hopefully i can get some straight answers on this.

Answers

Q1) You can use as much water as you want for the water wash. I personally wouldn't bother with this step. As long as you were carefull when you seperated you solvent from the basified water then the amount of NaOH in your solvent will be miniscule. I would only bother with this step if you solvent is very discoloured

Q2) The idea with recrytalisation is to exploit the changes in solubility resulting from changing the temperature of the slovent or by using a mixture of solvents.

DMT is soluble in naphtha. However the amount of DMT that dissolves in a given quantity of

naptha will vary with temperature. The idea is to heat up the naptha so that a small amount can dissolve all of your DMT and then cool the naptha reducing the amount of DMT that it can keep in solution this will cause most of the DMT to precipitate out. Some DMT along with all of the other naptha soluble crap will stay in solution this is what you throw away. If you got your naptha very cold then hopefully not much DMT will be in solution and so not too much will be lost however recrystallisation will always result in the loss of some DMT. Personally I wouldn't use naptha as a recrystallisation solvent as DMT is too soluble in it. Even when cold quite a bit will remain in solution. I would use something which will only dissolve DMT when hot. This is the reason you should only use just enough hot solvent to dissolve your DMT.

Another possible method is to add another more polar solvent to your naptha to force the dmt out of solution. Methanol should work.

You say that some people dissolve their goo in hot naptha and decant leaving crap to throw away and then evaporate the naptha to get their dmt. Well if you performed your initial extraction correctly then your goo should contain only DMT soluble substances so there shouldn't be anything which doesn't dissolve. If there is this should be removed. The naptha should then be cooled to precipitate the DMT. If you just evaporate it you will get your dmt back but you will also get your crap back.

I hope that helps. If you need more info read an organic chemistry text book.