

Soil Chromatography

Materials/Equipment

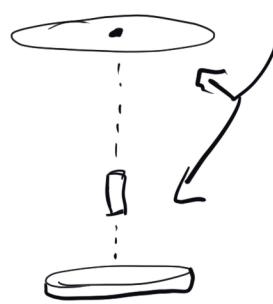
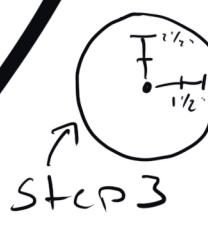
- 125cc flasks
- Qualitative filter paper
- 0.5% AgNO_3 solution
- 1% NaOH solution
- Petri dishes
- Graduated cylinders
- Indirect sunlight
- Dirt!

Distributed by the
Institute for
Post-Anthropocentric
Ecology (Iface.org)

Please share freely!
(add your name here!)

Questions?
Study @ iface.org
Reach out!

STEP 4



Filter Prep

(Do all of this in (& store & dry)
in low-light!)

1. Punch hole in center of filter
2. Create wick from filter paper
(Roll a 1" wide strip to make a "straw")
3. Mark 1 1/2 in & 2 1/2 in @ L Angles
4. Pour 3-5ml of 0.5% AgNO_3 into petri dish, let absorb until 1 1/2 in mark.
5. Dry! Good for 3 days

$(0.15 - 0.25 \text{ mg } \text{AgNO}_3$
 $\text{to } 3 - 5 \text{ ml } \text{H}_2\text{O})$

(0.5% AgNO_3 means a ratio of 0.5g/100ml)

Soil Prep

1. mix 5g soil w/ 50ml of
1% NaOH solution
(5g NaOH / 50ml H₂O)

2. swirl, wait 15 mins, swirl, wait 60 mins
swirl, wait 5 hours, swirl.
3. Cap, keeps for 24 hrs
-

Testing (prep in low-light)

1. 5ml soil extract into petri dish
(same technique as filter prep)
 2. rest treated disc (w/ NEW filter)
on petri dish.
 3. let absorb until moist
 4. Place in indirect sunlight until
vibrant.
-

DISPOSAL: AgNO₃ solution can be recycled,
or disposed in a supersaturated salt-
water mix, diluted, & down the drain. NaOH can go
down the drain.

Safety: Always wear gloves & eye pro. Work
in well-ventilated areas.

READING CHROMATOGRAPHS

In general, smoother, softer, and more varied shapes and transitions that are warmly brown, yellow, orange, or red, suggest a healthy and biodiverse soil. Here's some specific features to look for!

INTERMEDIATE ZONE
IDENTIFIES ORGANIC
MATTER CONTENT

FADING IN
CENTRAL ZONE
IDENTIFIES
OXYGENATION

TERMINAL
NODES INDICATE
ENZYME ACTIVI-
TY

WAJV RADIAL STRUC-
TURE SUGGESTS BIO-
MINERAL INTEGRATION

INNER ZONES INDI-
CATE MINERAL CON-
TENT AND FUNGAL
ACTIVITY

SMOOTHER RING
TRANSITIONS
SHOW ORGANIC
MATTER
INTEGRATION

INTERNODE
STAINING SHOWS
NUTRIENT AVAILABILITY