

Stockroom Recipes

Back to; the [Stockroom](#) , the [Biology Department](#) , or the [College](#)

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These recipes were collected over the course of many years by various stockroom technicians (therefore I can take no credit or responsibility for their accuracy or lack thereof). For each recipe there are surely other ways of making them and/or other formulations. Some are actually formulas concocted by our faculty for their own research needs.

There are many duplications in this list (ie. rat ringers is also listed as ringers, rat etc.) as I have intended it to be easily downloaded and printed to a card type file with cross references. This is most easily done by "searching" for the ***** lines and "replacing" with a page break. The resulting pages should fit easily on a 4x6 cards.

Should you wish to add or correct errors in this list please e-mail your recipe or correction to me, [Bob McNulty](#) and I will incorporate it/them into our list with the appropriate acknowledgements (if desired).

BEFORE MIXING ANY REAGENT YOU SHOULD UNDERSTAND THE PROPERTIES OF ALL OF THE CHEMICALS INVOLVED.

Consult your [MSDS](#), Merk Index, CRC etc. before mixing any reagent.

The Biology Department, California State University Chico, and most important, Myself... assume NO responsibility for the outcome of mixing any of these reagents !!!!!

Now on with the list

To avoid laborious scrolling click on the desired location in the alphabet below.

[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

A's

2-4 - Dichlorophenoxyacetic acid (2-4-D)

Mix dry reagent in a small amount of 95% ethanol. Place this solution in a warming plate 32 deg C and add prewarmed water slowly with swirling until desired concentration is reached.

5% Ammoniacal Silver Nitrate

Add concentrated ammonium hydroxide to 5% silver nitrate until resulting precipitate again dissolves.

A.F.A. , Botanical

115 ml	Formalin
115 ml	Glacial acetic acid
805 ml	95% Ethanol
805 ml	Distilled water

ACD used for blood

1.32 gm	Na Citrate
0.48 gm	Citric Acid
1.47 gm	Dextrose
100 mls	Distilled water

Use 0.25 ml/ml of blood

ACETIC ACID - DILUTIONS

172 MLS	3N
57.3 mls	1N
1.046 mls	0.02N

Bring to a final volume of 1 Liter.

Aceto Carmine Stain (Stern)

45 ml	Glacial acetic acid
55 ml	water
0.5 gm	Carmine

Heat the 45% acetic acid solution to boiling. Add the 0.5gm Carmine and continue heating for several minutes with stirring. Filter and cool.

ACETO-CARMINE (BELLING'S)

STOCK 1

55 ml	Distilled water
45 ml	Acetic acid
5.0 gms	Carmine

STOCK 2

55 ml	Distilled water
45 ml	Acetic Acid
5 gms	Ferric oxide (iron acetate)

Boil stock solution 1 for 15 minutes, cool and filter
To 50 mls of stock 1 add stock 2 until pcpt just appears
then quickly add 50 ml more of stock 1
***for most purposes omit stock solution 2 and just use
stock solution 1.

ACETO-CARMINE (chromosome stain for drosophila)

1. Weigh sufficient solid Carmin or Orcein, or Lacmoid to make a 2% solution.
2. Place the stain with the appropriate volume of 45% acetic acid in a flask with a vertical condensor.
3. Reflux all day, glass beads or pumice will help to prevent bumping.
4. Allow to cool and filter.

ACETOCARMINE

Stock sol'n - Boil and excess (aprox 0.5g/100 ml) of carmine in 45% acetic acid (aq) 2-4 minutes. Cool and filter. Working sol'n. Dilute stock sol'n with 45% acetic acid 1:2. An iron mordanted stain often is favored because of darker bluish tinged red. Belling added a few drops of 50% ferric hydrate in 50% acetic acid, but only a few drops! Too much iron will produce a pcpt in a short time. Moree(1944) determined quantatively the amount of ferric chloride to add and includes volumes tables Moree, r. 1944 Stain tech 9:103-108

ACETIC ALCOHOL

100 mls Ethanol anhydrous
33 ml Glacial Acetic Acid

ACID ALCOHOL

50 ml 35% Ethanol
3 drops HCl (con)

ACID ALCOHOL FOR GLASSWARE CLEANING

100ml 70% Ethanol
5 ml HCl

ACID CLEANING SOLUTION

120 gms Na Dichromate
1 Liter Tap Water
1.6 Liters Con Sulfuric
Dissolve chromate in water. Add acid with swirling. Be sure to surround mixing vessel with ice bath.

Acid cleaning solution 1

120 gm Na dichromate
1000 ml tap water
1600 ml sulfuric acid
Dissolve chromate in water. Add acid with swirling. Be sure to surround mixing vessel with ice bath.

ACID CLEANING SOLUTION 2

120 gm Potassium Dichromate
600 mls water
920 mls Con Sulfuric Acid
Dissolve chromate in water. Add acid with swirling. Be sure to surround mixing vessel with ice bath.

Acid cleaning solution 2

120 gm Potassium dichromate
600 ml water
920 ml sulfuric acid
Dissolve chromate in water. Add acid with swirling. Be sure to surround mixing vessel with ice bath.

AFA (ALEXANDER'S)

460 ML	FORMALIN
1152 ML	95% ETHANOL
76 ML	GLACIAL ACETIC ACID
2308 ML	TAP WATER

ALCOHOLIC BORAX CARMINE (GRENACHER'S)

3 gm	Carmine
4 gm	Borax
100 ml	distilled water

Boil until the carmine is dissolved (1/2 hr) or better yet allow the mixture to stand at room temp until dissolved.
Then add 70% ethanol (100 ml) and allow to stand for a day or two then filter.

ALEXANDER'S AFA

460 ML	FORMALIN
1152 ML	95% ETHANOL
76 ML	GLACIAL ACETIC ACID
2308 ML	TAP WATER

ALGAL PRESERVATIVE

8 parts	50% Ethanol
1 part	5% Formalin
1 part	Glycerine

Alizerine Red S for whole mount staining of bone

1 part alizerin red in 10,000 parts 1% - 2% KOH
Material is cleared in 2% KOH first.

Alkaline - Iodine

NaOH	500 gm
or	
KOH	700 gm
*****and*****	
NaI	135 gm
or	
KI	150 gm

dissolved in distilled water to make 1 Liter
(used for determining dissolved oxygen)

Alkaline Alcohol

Add a few drops of 1.0% sodium bicarbonate to 70% Ethanol

Alkaline Na I

Dissolve 40 gm of NaOH and 90 gm of NaI to make 100 ml of solution using distilled water.

Alum Carmine (Grenacher's)

100 ml Distilled water
 3 gm Aluminum ammonium
 sulfate
 1 gm Carmine
 Combine and boil for 15 mon or until carmine is
 dissolved. Cool and filter.

Alum Cochineal

6 gm Potassium alum
 6 gm powdered cochineal
 90 ml distilled water
 Boil for 1/2 hour. After the fluid has settled, decant
 the supernatant liquid, add more water and boil it down
 until only 90 mls remain. Filter when cool and add a
 bit of thymol or a little salicylic acid to prevent
 the growth of mold

Aman's Lactophenol

20 ml melted phenol
 20 ml Lactic acid
 40 ml glycerine
 21 ml distilled water
 To 100 ml of the above add 5 ml of 1% aqueous Cotton Blue
 or Acid Fuchsin.

Aminonaphthal Sulfonic Acid

Grind 0.5 gm of 1-amino-2-naphthal-4-sulfonic acid
 with 5 ml of sodium sulfite solution containing 1 gm
 anhydrous sodium sulfite per 5 ml and disolve in 200 ml
 sodium bisulfite solution containting 30 gm Na2S2O5 per
 200 ml.
 Keep in brown tightly stoppered bottle.

Ammonium Hydroxide Concentrations

Reagent grade (58%) = 29.7 N
 U.S.P. grade (28%) = 15 N

Ammonium Potassium Oxalate

1.2 gm Ammonium oxalate
 0.8 gm Potassium oxalate
 100 ml distilled water

Aqua Regia

1 part Nitric Acid
 3 parts HCl
 1 part distilled water
 WARNING!!! IF YOU DON'S ADD THE WATER POISONOUS
 CHLORINE GASS WILL FORM!!!!!!!!!!!!

B's

[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

Balsam in 100% Ethanol

1 part Balsam (solid)
 1 part absolute ethanol
 This takes at least 3 days to dissolve so prepare in
 advance.

Barfoed's Solution

Place 4.5 gm crystalized neutral cupric acetate
 in 100 ml of water, add 0.12 ml of 50% acetic acid.

Baritt's Reagent test for acetylmethylcarbinol

5% solution of alpha naphthol in absolute ethyl
 alcohol. 40% solution of potassium hydroxide.
 0.3% creatin in 40% potassium hydroxide but ADD JUST BEFORE
 USE. Stable for 2 weeks.

Baryta Water

Add Barium Hydroxide plus a pinch of Barium Chloride to a
 bottle fo distilled water until no more will go into
 solution.
 Filter and keep tightly stoppered.

BELLING'S ACETO - CARMINE

STOCK 1
 55 ml Distilled water
 45 ml Acetic acid
 5.0 gms Carmine
 STOCK 2
 55 ml Distilled water
 45 ml Acetic Acid
 5 gms Ferric oxide
 (iron acetate)

Boil stock solution 1 for 15 minutes, cool and filter
 To 50 mls of stock 1 add stock 2 until pcpt just appears
 then quickly add 50 ml more of stock 1
 ***for most purposes omit stock solution 2 and just use
 stock solution 1.

Benedict's Reagent

173 gm Sodium Citrate
 100 gm Sodium Carbonate
 (anhydrous)
 17.3 gm Copper Sulfate
 to make Distilled water
 1 liter
 Dissolve sodium citrate and sodium carbonate in 800 ml
 of distilled water. Filter and add copper sulfate
 dissolved in 100 ml of distilled water.
 Add distilled water to make 1 Liter.

Benzidine Reagent

Make a saturated solution of benzidine in glacial acetic
 acid.
 Benzidine Test
 Place a drop of blood in 3 ml of water. Add 2 ml of
 saturated solution of benzidine in glacial acetic acid.
 To this add 1 ml of 3% hydrogen peroxide.

Berlese's Medium

10 ml water
 3 ml glacial acetic acid
 5 ml dextrose syrup
 8 gm gum acacia
 75 gm Chloral Hydrate

Mix water, acid, and syrup. Dissolve gum acacia in this mixture (may take a week). Stir at intervals. Be careful not to include any air bubbles. Afeter gum acacia is dissolved, add chloral hydrate.

Biuret Reagent tried and true!!!!

3 gm CuSO4*5H2O
 12 gm Potassium sodium tartrate
 600 ml 10% NaOH (aq)

Dissolve copper sulfate in 500 ml of distilled water, then dissolve potassium sodium tartrate in this solution. Boil 800 mls of distilled water, cool covered. Add the 600 mls of 10% NaOH to the cooled water. Mix the two solutions and bring to 2 liters. Bottle in PLASTIC BOTTLES.

Biuret Reagent and Paper

Biuret Reagent is prepared by adding 25 ml of 3% Copper Sulfate in 10% Potassium hydroxide. Paper (Walkers modification) Add 1% copper sulfate solution a drop at a time, with stirring to a 40% solution of NaOH until the mixture becomes a deep blue color. Then filter paper may be immersed in the reagent, dried, and cut into strips for use in tests for proteins.

Blood Diluting Fluid (Gower's)

12.5 gm Sodium Sulfate
 33.3 ml Glacial acetic acid
 200 ml distilled water

Borax Carmine, Alcoholic, Grenacher's

3 gm Carmine
 4 gm Borax
 100 ml distilled water
 Boil until the carmine is dissolved (1/2 hr) or better yet allow the mixture to stand at room temp until dissolved. Then add 70% ethanol (100 ml) and allow to stand for a day or two then filter.

Botanical F.A.A.

115 ml Formalin
 115 ml Glacial acetic acid
 805 ml 95% Ethanol
 805 ml Distilled water

Bouin's Fixative (Alcoholic) Kistner

150 ml 90% Ethanol
 60 ml Formalin
 15 ml Glacial acetic acid
 1 gm Picric Acid

Bouin's Picro-Formol Fixative

75 parts saturated aq Picric
 Acid
25 parts Formalin
5 parts Glacial acetic Acid
1 gm of picric acid will saturate about 75 mls of water.

Bradford Protein Assay Dye Reagent

50 mg Coomassie Blue G250
100 ml 85% H3PO4
850 ml H2O
50 ml methyl alcohol
Mix coomassie blue in methyl alcohol first. Then add this
to the phosphoric acid. Now add 500 mls of water, mix
and filter. Add and mix the remaining 350 mls of water
bottle and store in refrigerator.

Brazil's Fixative

150 ml 80% Ethanol
1 gm Picric Acid
60 ml Formalin
15 ml Acetic acid ADD
 JUST BEFORE USE

Brodie's Manometer Fluid

23 gm NaCl
5 gm Sodium Choleate
500 ml distilled water
density = 1.033, Po = 10000
Evans blue (200mg/L) or acid fuchsin are excellent dyes
for the fluid; other dyes may be used, but some of these
tend to decompose in the manometer. Determine the density
of the solution with a pycnometer.

Brom Cresol Purple - indicator for fermentation

1.6 gm Brom Cresol Purple
Mix BCP in dry mortar with 18.5 ml of .1N NaOH.
Dillute to 100 ml (Enough additional to completely dissolve
the reagent)

Brom Thymol Blue - indicator

0.1 gm Brom Thymol Blue
16.0 ml 0.01N NaOH
Mix in a mortar and then dillute to 250 ml.
Use 5 drops / 10 ml of solution being checked.

Brom Thymol Blue - indicator

0.4 gm Brom Thymol Blue
500 ml 95% Ethanol
500 ml Distilled water
Dissolve the indicator in the alcohol. Add the distilled
water, stir and then filter through fast paper.

Budding Yeast

Place a small portion of a yeast cake in malt extract broth
Incubate while shaking.

Buffer Solutions of Clark and Lubs - Group 1

To 50 ml of a 0.2M KCl add the indicated number of mls of a
0.2N HCl solution and then dilute to 200mls with distilled
water.

INDICATOR: Thymol Blue

Buffer Solutions of Clark and Lubs - Group 2

To 50 ml of a 0.2M Potassium acid bi phthalate add the
indicated number of mls of 0.2N HCl and dilute to 200 ml
with distilled water

INDICATOR: Thymol blue and Brom Phenol blue

Buffer Solutions of Clark and Lubs - Group 3

To 50 ml of a 0.2M Potassium acid bi phthalate add the
add the indicated number of mls of 0.2N NaOH, and dilute
with distilled water to 200 ml.

INDICATORS: Brom cresol green, Brom phenol Blue, Brom
cresol purple

Buffer Solutions of Clark and Lubs - Group 4

To 50 ml of a 0.2M Acid Potassium phosphate add the
indicated number of ml of 0.2N NaOH and dilute to 200 ml.
INDICATORS: Brom thymol blue, Brom cresol blue, and Phenol
red.

Buffer Solutions of Clark and Lubs - Group 5

To 50 ml of 0.2N Boric acid in 0.2M KCl add the indicated
number of ml of 0.2N NaOH and dilute to 200 ml with
distilled water.

INDICATORS: Cresol red and thymol blue

Buffer, Phosphate, Sorensen's

Stock solution a) = 9.08gm /1000ml water of KH₂-PO₄
b) = 9.47gm /1000ml water of Na₂-HPO₄

Combine the two stock solutions as indicated

Buffer, Tris-Maleate

Dissolve 29 gm of maleic acid and 30.3 gm of
tris-hydroxymethyl aminomethane in 500 ml of water.
Add 2 g of Charcoal, shake and let stand for 10 min.
Filter. Mix 40 ml of this stock solution with the amount
of 1N NaOH indicated below and dilute to a final volume of
100 ml using water.

C's

[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

Carbol Methyl Green

1 gm Methyl green

5 gm Phenol or Carbolic
 10 ml 95% ethanol
 90 ml water
 Put phenol in mixture o 10 ml alcohol and 60 ml of water.
 Heat without boiling. Dissolve phenol with constant
 stirring. Put methyl green in 30 ml of water and heat.
 Pour dye solution into phenol solution (DO NOT REVERSE THIS!
 Let stand overnight. Decant and filter.

 Carboxylene

Melt some Carbolic acid crystals (Phenol) over a low flame
 (avoid breathing fumes). Mix one part acid to three parts
 Xylene.

 Carl's Solution (FAA)

170 ml 95% ethanol
 60 ml Formalin
 20 ml Glacial acetic acid
 280 ml water
 Add the glacial acetic acid to the solution just
 before using.

 Carmine, Alum, Grenacher's

100 ml distilled water
 3 gm aluminum ammonium
 sulfate
 1 gm Carmine
 Combine and boil for 15 min or until carmine is dissolved.
 Cool and filter.

 Carmine, Semicon's

1 part glacial acetic acid
 1 part water
 Add carmine powder in excess of that which dissolves
 immediately. Heat to 95-100 deg C for 15 min. Cool and
 filter. Dilute filtrate eith equal partsw of 70% ethanol

 Carnoy's Fixative

6 parts 100 % ethanol
 1 part glacial acetic acid
 3 parts Chloroform

 Carnoy-LeBrun Fluid

30 ml 100% ethanol
 30 ml glacial acetic acid
 30 ml Chloroform
 aprox 10gm Mercuric Chloride
 Saturat mercuric chloride in the solution.

 Celestine Blue (Gray's)

Dissolve 2.5 gm iron alum in 100 ml of water with 14 ml
 glycerine. Place 1 gm Celestine Blue B in a beaker. Tilt
 the beaker and tap to accumulate the dye in one place. Pour
 on 0.5 ml con sulfuric acid and mix with glass rod. When
 the effervescence has ceased the dye will be in the form
 of a friable mass. Break up this mass coursly and pour
 on, with constant stirring, the soltuion of inom alum heated
 to 50 deg C. Cool to room temp and adjust to pH 0.8 with
 sulfuric acid. Allow to settle for several days and do not
 stir when removing some stain for specimens.

Cerophyl Infusion for Stock Culture

4.7 ml .1M Na2-HPO4
 0.3 ml .1M NaH2-PO4
 945 ml distilled water
 50 ml ballanced salt sol'n
 0.5 gm Cerophyl

Add cerophyl to about 200 ml of boiling water and boil for 3 min. Add remaining water, buffer and pour into appropriate vessels.

BALANCED SALT SOLUTION =

distilled water 100 ml
 NaCl 2.08 gm
 MgSO4 0.08 gm
 MgCl2 0.17 gm
 CaCl2 0.02 gm
 KCl 0.46 gm

Chromate Cleaning Solution 1

120 gm Na dichromate
 1000 ml tap water
 1600 ml sulfuric acid
 Dissolve chromate in water. Add acid with swirling. Be sure to surround mixing vessel with ice bath.

Chromate Cleaning Solution 2

120 gm Potassium dichromate
 600 ml water
 920 ml sulfuric acid
 Dissolve chromate in water. Add acid with swirling. Be sure to surround mixing vessel with ice bath.

Chromate Starch

5 gm Potassium dichromate
 1 gm soluable starch
 100 ml water
 Suspend the starch and the potassium dichromate in cold water with stirring. Bring the mixture to a gentle boil while stirring, cool.

Chromatographic solvent, alkaline butanol sat HOH

80 ml n- butanol
 20 ml amonium hydroxide
 sp gr 0.90
 100 ml water
 Shake together vigorously and allow to stand.

Chromosome stain for fruit fly salivary glands

1. Weigh sufficient solid Carmin or Orcein, or Lacmoid to make a 2% solution.
2. Place the stain with the appropriate volume of 45% acetic acid in a flask with a vertical condensor.
3. Reflux all day, glass beads or pumice will help to prevent bumping.
4. Allow to cool and filter.

Cleaning solution for blood diluting pipets

Pull the following solutions through the pipet in order. Never let blood dry in the pipet

1. Dilute acetic acid (4-5 %)
2. tap water
3. Distilled water

- 4. Acetone
- 5. Air until enclosure bounces free

Clearing Solution for leaves pg 1 of 2

- A. Pre treatment
 - 1. Dried - soak in water till material sinks.
 - 2. Fresh - extract chlorophill - rinse in water.
- B. Clearing
 - 1. transfer tislsue to a vial of 5% aq solution of NaOH, hydrolize and remove cytoplasimic material.
 - 2. if delicate, clear at room temp, otherwise heat may be used - 55 deg C. Replace with fresh NaOh when discolored
 - 3. if not cleared in several days wash thoroughly in water and soak in 10% clorox for 10 - 20 minutes.

Clearing Solution for leaves pg 2 of 2

- 4. when tissue is milky white, wash thouroughly in HOH
- C. Stainging
 - 1. 1% analine blue in 95% ethanol
 - 2. 1% safranin in 50% ethanol
 - 3. 0.5% fast green in 100 % ethanol
 - 4. 0.5% crystal violet in 100 % ethanol

Cobalt Chloride weather paper

A piece of white blotting paper is immersed in a solution containing two parts cobalt chloride to one part comon salt. While wet the pater will remain pink, but when dried in the sun or near a bunsen burner, it turns blue. This is the basis of the weather pictures sold in the shops. A homemade one works just as well. A picture containing sky or water dcan be cut from a book and an inset of this prepared blotting paper made to replace the sky. Mount the picture on a card and hang near a window wher it will quickly respond to changes in the hygrometric state of the atmosphere.

Colchicine Solution

0.0125 gm	Colchicine
25 ml	water

Coliform test broth

10 gm	Protease Peptone #3
1 gm	Beef extract
5 gm	Lactose
5 gm	Sodium Chloride
18 mg	Phenol red
1 liter	water

Cotton blue

20 ml	carbolic acid
20 ml	Lactic acid
40 ml	glycerine
20 ml	water
0.05 gm	Cotton blue

Crystral violet 1:1000

0.9 gm	Crystal Violet (85% dye content)
100 mls	Water

 Cyanophycean Medium

5 gm KNO3
 0.1 gm K2-HPO4
 0.05 gm MgSO4*7HOH
 10 drops 1% Ferric ammonium
 citrate

The above should be added to 1000ml of distilled deionized water.
 This can be solidified by adding agar to reach a 1.5% concentration and heating to dissolve it.

 D's
[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

Dahl's Pollen Mounting Medium

16 parts 85% Lactic acid
 2 parts N-Butyl alcohol
 1 part 95% Ethanol
 1 part Glacial Acetic Acid
 1 part Glycerine

 Desicote

5 ml Beckman Desicote
 95 ml Benzene (thiophene free)

 Dichlorophenoxyacetic acid (2-4-D)

Mix dry reagent in a small amount of 95% ethanol.
 Place this solution in a warming plate 32 deg C and add prewarmed water slowly with swirling until desired concentration is reached.

 Dichromate Cleaning Solution

120 gm Na Dichromate
 1000 ml Water
 1600 ml Con Sulfuric Acid
 (technical grade)

 Digestive juice (synthetic)

7-10 ml con HCl
 to 1 Liter Distilled water
 6 gm Pepsin

 Dilution Fluid, Turk's

1 ml Glacial acetic acid
 1 ml Gentian Violet
 100 ml distilled water
 Filter before use

 Dried Blood

Spread blood on glass plate. Dry in oven or in air.
 When dry scrape into beaker.

 Drosophila Chromosome Stain #1

2 gm Synthetic Orcein
 50 ml Glacial acetic acid
 50 ml 85% Lactic acid

Dissolve Orcein in hot glacial acetic acid, remove from heat and add the Lactic acid. Filter.

Drosophila Chromosome Stain #2

1 gm Synthetic Orcein
45 ml Glacial acetic acid
25 ml 85% Lactic acid
30 ml distilled water
Dissolve Orcein in hot glacial acetic acid, remove from heat and add the water and Lactic acid. Filter.

E ' S

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Eosin (microtechnique)

0.5gm Eosin
100 ml 95% Ethanol

Erlich Solution for Indol Test

1 gm Para dimethylamino benzaldehyde
95 ml 95% ethanol
20 ml con HCl
Dissolve the powder in the alcohol. Then add the HCl and mix well

F ' S

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

F.A.A. (Carl's Solution)

170 ml 95% ethanol
60 ml Formalin
20 ml Glacial acetic acid
280 ml water
Add the glacial acetic acid to the solution just before using.

F.A.A. Alexander's

120 ml Formalin
300 ml 95% Ethanol
20 ml Glacial acetic acid
600 ml tap water

F.A.A., Lavdowsky's

20 ml Formalin
100 ml Ethanol
4 ml Glacial acetic acid
80 ml distilled water

F.A.A., Botanical

115 ml Formalin
115 ml Glacial acetic acid
805 ml 95% Ethanol
805 ml Distilled water

F.A.A., Smith's

90 ml 85% isopropanol
10 ml glacial acetic acid
10 ml Formalin

Farmers fluid

3 parts 100% ethanol
1 part Glacial acetic acid

Fixative, Navashin's

SOLUTION A

5 gm Chromic acid
50 ml Acetic acid
320 ml distilled water

SOLUTION B

200 ml formalin
175 ml distilled water

Mix equal parts of each solution just before use.

Fixative, Transeau's

6 parts supernatant of sat
 aq. CuSO4
3 parts 95% ethanol
1 part 40% aq. formalin
Used to preserve color in plants

Formalin, Neutral buffered, Lillie's

100 ml formalin
900 ml distilled water
4 g NaH₂-PO₄
6.5 gm Na₂-HPO₄

Frog Ringers

0.8 gm NaCl
0.02 gm CaCl₂ anhydrous
0.02 gm KCl
0.02 gm NaHCO₃
100 ml distilled water
** 0.1 gm Dextrose
** add only if requested and if requested add just before
use.

FRUIT FLY MEDIA

37 GM BREWERS YEAST
150 GM CORN MEAL
35 GM AGAR
200 ML UNSULFURED MOLASSAS
3 GM MOLD INHIBITOR
 (CAROLINA BIOLOGICAL
1900 ML DISTILLED WATER

Mix yeast, mold inhibitor, and agar with a little 95% ethanol. Add some of the water to the corn meal to wet it and then add all the ingredients to the remaining water. While stirring constantly bring the mixture to a boil. Dispense in 50 ml aliquats in 1 pint milk bottles.

G's

[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

Gastric Juice or enzyme

1-2 gm pepsin
 100 ml 0.2% HCl
 0.2% HCl = 6 ml con HCl in 1 liter of distilled water

Geimsa Stain

Dissolve 0.5 gm of powder in 33 ml of glycerine at 55 to 66 deg. C overnight with stirring and heat. To this add 33 ml of methyl alcohol.
 WORKING DILLUTION =
 1 ml of above stain to 25 ml of distilled water.

Gentian Violen Stain

1 gm Gentian Violet
 20 gm Ethanol
 80 ml 5% Formalin
 Dissolve the Gentian Violet in the alcohol then add the formalin, mix and filter.

Gilson's Mixture

15 ml Nitric acid sp =1.45
 or 70-80 %
 4 ml Glacial acetic acid
 20 gm Mercuric chloride
 100 ml 60% ethanol
 880 ml distilled water
 Can be heated to dissolve but let sit for a day or so to let it pcppt out. Do not use metal probes as the mercuric chloride eats metal and will cause specimen to stick to probe.
 Store in clear glass container.

Glycerine Alcohol

90 parts 70% ethanol
 10 parts Glycerine

Glycerine Jelly

10 gm gelatin
 60 ml distilled water
 70 ml Glycerine
 1 gm Phenol
 Dissolve phenol in water then stir in the glycerine. When miced, add gelatin and heat until dissolved. Transfer to a widemouth jar and allow to cool.

Glycerine Preservative for Kelp

3 parts Water
 1 part Glycerine
 10 gm/L Phenol
 Add kelp, cleaned of sand and epiphytes, making sure they are completly immersed (a weight may be added if necessary) and preserve for about 10 days. Remove and dry on newapaper 10 - 14 days. Turn occasionally so that all portions will be dry. Glycerine solution may be used several times.

Gower's R-B-C

12.2 gm Sodium Sulfate
33.3 ml Glacial acetic acid
200 ml distilled water

Grenacher's Alcoholic Borax Carmine

3 gm Carmine
4 gm Borax
100 ml distilled water
Boil until the carmine is dissolved (1/2 hr) or better yet allow the mixture to stand at room temp until dissolved. Then add 70% ethanol (100 ml) and allow to stand for a day or two then filter

Grenacher's Alum Carmine

100 ml distilled water
3 gm aluminum ammonium sulfate
1 gm Carmine
Combine and boil for 15 min or until carmine is dissolved. Cool and filter.

H'S

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Hagerup's Fixative

1 part propionic acid
6 parts 100% ethanol
3 parts chloroform

Harris' Alum Hematoxylin

0.5 gm Hematoxylin
20 gm Aluminum Ammonium Sulfate
100 ml distilled water
0.5gm Mercuric Oxide
Boil the hematoxylin and ammonium alum together in distilled water (use a large container). Add the mercuric oxide with care as there is a tendency for the solution to boil up.

Helly's Fluid

2.5 gm Potassium Dichromate
5.0 gm Mercuric Chloride
1.0 gm Sodium sulfate
100 ml distilled water
5 ml Formalin

Hematoxylin, Harris'

0.5 gm Hematoxylin
20 gm Aluminum Ammonium Sulfate
100 ml distilled water
0.5gm Mercuric Oxide
Boil the hematoxylin and ammonium alum together in distilled water (use a large container). Add the mercuric oxide

with care as there is a tendency for the solution to boil up.

Hematoxylin, Iron

2 solutions are used. They are not to be mixed.
1. Ferric alum (clear violet crystals) 2.5 gm (ferric ammonium sulfate) is dissolved in 100 ml of distilled water.
2. 5 gm of Hematoxylin is dissolved in 1 liter of distilled water and 100 ml of 95% ethanol.

Holtfreter's Solution

0.35 gm NaCl
0.005 gm KCl
0.01gm CaCl2
0.02gm NaHCO3
100 ml distilled water

Honey Peptone Agar

10 gm Peptone
60 gm Honey
15 gm agar
1 Liter distilled water

Houpt's Adhesive

1 gm of plain Knox gelatin (or reagent gelatin) is dissolved in 100 ml of water at 30 deg C. Add 2 gm phenol and 15 ml of glycerine. Stir and filter (takes 24 hrs).

Hoyer's Medium

25 ml water
15 gm Gum Arabic
10 ml Glycerine
100 gm Chloral hydrate
First add crystal of chloral hydrate the size of a pea to prevent fungal growth. Then soak gum-water-pea of chloral hydrate for 24 hrs. Then add 100 gm of chloral Hydrate and wait until dissolved. This may take several days. After everything is dissolved add glycerine.

Hydrochloric acid dillutions

1 N 86 mls to volume of 1 liter
2 N 172 mls to volume of 1 liter
3 N 258 ml to volume of 1 liter

HYDROCHLORIC ACID DILLUTIONS

3N 258ml/L 36%

Hydroxide Sodium Iodide for Aquatic Analysis

Add 100 grams of NaOH and 27 grams of NaI to 1 liter of water.

I 'S

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Indicator, Methyl Orange

0.5 gm Methyl orange
1 liter water

Indicators, pH

Brom Cresol green; 0.4 gm BCG, 500 ml 95% ethanol, 500 ml distilled water. Filter.
Cresol Red; Same procedure as above using 0.2gm cresol red
Thymol blue; Same as above using 0.5 gm of thymol blue
Phenolphthalein; 1.0 gm phenolphthalein in 50 ml of 95% ethanol and 50 ml of distilled water.

Indol Acetic Acid in Lanolin

5 gm lanolin
2 mg IAA
Warm (do not boil) the lanolin in a small screw cap vial until the lanolin just turns to liquid. Add the IAA and mix thoroughly with a glass rod and allow to cool.

Indol acetic acid solution

Indol acetic acid must first be dissolved in a small amount of 95% ethanol before adding the appropriate amount of water to reach the desired concentration
NOTE: IAA is unstable as a solution and must be refrigerate Even cold it will only be good for about 36 hours.

Indol Test (Kobacs' Reagent)

75 ml Amyl alcohol
25 ml con HCl
5 gm paradimethylamino-benzaldehyde
Should be made up in small quantities and stored in refrigerator in clear glass stoppered bottles.

Insect Saline

0.7% NaCl
0.2 ml 10% CaCl2

Insect Saline (Hayome)

0.7% NaCl in distilled water.

Iodine - Reagent to devolatalize Iodine

0.8 gm NaOH
0.5 gm Sodium thiosulfate
0.3 gm Potassoum Iodide
to 1 liter distilled water

Iodine solution (LUGOL'S)

50 gm Iodine
100 gm KI
to 1 liter distilled water
Mix I and KI in a mortar. Add distilled water in small portions to wash out the contents into a graduated cylinder.

Iodine Solution (STOCK for starch)

35 gm KI
5 gm I
500 ml distilled water
for working dillution to use in starch test dilltue 1 part stock with 2 parts water.

K'S

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

K.A.S.A.

158 ml crude Kerosene
473.75 ml 95% isopropanol
105.25 ml glacial acetic acid
263 ml sec-butyl alcohol
Add sec-butyl alcohol last until solution clears

Karpaenchenko's fixative (Taylor's modification)

1.5ml 10% aq chromic acid
10 ml 10% aq acetic acid
0.83 ml formalin
23.67 ml distilled water

Knop's solution pH 7.6

1 gm MgSO4*7HOH
0.20 gm KH2-PO4
1.0 gm KNO3
1 gm Ca(NO3)2*4HOH
Add each of the above to 250 ml of distilled water then combine to 1 liter adding Ca Nitrate last. Add 1 drop of 1% ferric chloride (freshly prepared)

Knops Solution (acid medium pH aprox 6.4)

0.25 gm MgSO4*7HOH
0.25 gm KH2-PO4
0.12 gm KCl
1.0 gm Ca(NO3)2*4HOH
Add each of the above to 250 ml of distilled water then combine to 1 liter adding Ca Nitrate last. Add 1 drop of 1% ferric chloride (freshly prepared)

Kobacs' Reagent

75 ml Amyl alcohol
25 ml con HCl
5 gm paradimethylamino-benzaldehyde
Should be made up in small quantities and stored in refrigerator in clear glass stoppered bottles.

Kovacs' Reagent - for indol test

75 ml	Amyl alcohol
25 ml	con HCl
5 gm	Paradimethylamino- benzaldehyde

Should be made up in small quantities and stored in refrig in clear glass, stoppered bottles.

Kreb's Manometer Fluid

44 gm	NaBr anhydrous
0.3 gm	Triton X-100
0.3 gm	Evans blue
1 liter	distilled water

Density = 1.033 at 20 deg C.

Kymograph Shellac Solution

Dillute 1 volume of shellac with 2.5 volumes of 95% ethanol.

L'S

[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

Lactophenol Mounting medium

1 part	phenol crystals
1 part	Lactic acid
1 part	glycerine
1 part	distilled water

Langeron's recipie calls for 2 parts glycerine to 1 part of the other reagents.

Lavdowsky's fixative

20 ml	Formalin
100 ml	Ethanol
4 ml	Glacial acetic acid
80 ml	distilled water

Litmus solution

Add powdered litmus to distilled water to make a dark blue solution

Locke's Physiological Saline

9 gm	NaCl
0.2 gm	NaHCO3
0.42 gm	KCl
0.25 gm	CaCl2
2 gm	dextrose
1000ml	distilled water

Dissolve CaCl2 in a little of the water and add it to the rest of the solution to prevent pptation. Add dextrose only if specified, and then at the last moment.

Loeffler's methylene blue

0.3 gm	Methylene blue
30 ml	95% ethanol
70 ml	Dilute KOH (0.017%)

LUGOL'S iodine solution

50 gm Iodine
100 gm KI
to 1 liter distilled water
Mix I and KI in a mortar. Add distilled water in small portions to wash out the contents into a graduated cylinder.

M'S

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Maceration Fluid

1 part 10% Nitric acid
1 part 10% Chromic acid (chromic trioxide)
Boil material 1 min in water. Pour off water add acid, stir with glass rod and check at intervals until it begins to separate. Pour off acid, put in white silk scarf or handkerchief and rinse with water for 12 hours. Drain off water and cover with 5 volumes of 70% ethanol.

Mallory's Triple stain

First Stain Solution; 1% acid fuchsin
Differentiating Moderating solution; 1% Phosphotungstic acid.

Second Staining Solution;

100 ml water
0.5 gm Analine blue
2.0 gm Orange G
2 gm Oxalic Acid

Manometer Fluid, Brodie's

23 gm NaCl
5 gm Sodium Choleate
500 ml distilled water
density = 1.033, Po = 10000
Evans blue (200mg/L) or acid fuchsin are excellent dyes for the fluid; other dyes may be used, but some of these tend to decompose in the manometer. Determine the density of the solution with a pycnometer.

Manometer Fluid, Kreb's

44 gm NaBr anhydrous
0.3 gm Triton X-100
0.3 gm Evans blue
1 liter distilled water
Density = 1.033 at 20 deg C.

Mayer's Paracarmine

1 gm Carminic acid
0.5 gm Al chloride
4.0 gm CaCl2
100 ml 70% ethanol

Melzer's Reagent

1.5 gm KI
 5 gm I
 20 ml water
 20 gm Chloral Hydrate

Methocel

2.5-3 gm Methocel
 90 ml distilled water
 Mic methocel with the 90 ml of Hot not boiling water. Cool to 5 deg C (in refrigerator). It should be transparent when finished.

Methyl Green

1 gm Methyl green
 1 ml glacial acetic acid
 99 ml water
 Dissolve satin in acid and dilute with water

Methyl Green Glycerine-Jelly Stain

Add saturated (about 3%) solution of methyl green in 50% ethanol drop by drop to melted glycerine jelly (a good comercial grade is satisfactory), until jelly becomes as dark as green ink.

Methyl Orange Indicator

0.5 gm Methyl orange
 1 liter water

Methylene blue stain

0.3 gm Methylene blue
 30 ml 95% ethanol
 100 ml distilled water
 Dissolve stain in alcohol, then dilute with water and filter

Methylene Blue, Loeffler's

0.3 gm Methylene blue
 30 ml 95% ethanol
 70 ml Dilute KOH

Meyer's Adhesive

Add to one fresh egg white, an equal quantity of glycerine and 1 gm of sodium salicylate and a crushed crystal of thymol. Shake wall and filter through 2-3 thicknesses of sterile cheesecloth

N ' S

[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

NADI Reagent

A. 1% alpha-naphthol in 95% ethanol.
 B. 1% N,N-dimethyl-p-phenylenediamine HCl in water
 Solutions a and b are mixed in equal amounts just prior to use.

Naphthylamine Hydrochloride

Dissolve 0.6 gm 1-naphthylamine hydrochloride in distilled water to which 1.0 ml of con HCl has been added. Dilute to 100 ml with distilled water. Store in refrigerator.

Navashin's Fixative

SOLUTION A

5 gm Chromic acid
 50 ml Acetic acid
 320 ml distilled water

SOLUTION B

200 ml formalin
 175 ml distilled water

Mix equal parts of each solution just before use.

Nessler Reagent

Dissolve 100 gm anhydrous mercuric iodide and 70 gm anhydrous potassium iodide in a small quantity of water and add mixture slowly to a cool solution of 160 gm of NaOH in 500 ml of distilled water. Dilute to 1 liter with distilled water. Store in pyrex bottle out of direct sunlight.

Neutral Buffered Formalin, Lillie's

100 ml formalin
 900 ml distilled water
 4 g NaH₂-PO₄
 6.5 gm Na₂-HPO₄

Newcomers Fixative

6 parts isopropyl alcohol
 3 parts propionic acid
 1 part petroleum ether
 1 part acetone
 1 part dioxane

Ninhydrin Reagent

0.5% ninhydrin in acetone or n-butanol.
 Thomas prefers n-butanol.

Nitric acid dilution

3N 195 ml/L 69%

O'S

[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

Ortho-Toluidine Reagent (for aquatic analysis)

Dissolve 4 gm ortho-toluidine in distilled water containing 15 ml of con HCl. Dilute to a final volume of 500 ml.

Pancreatic juice, artificial

40 gm Pancreatin
0.4 gm Baking soda
200 ml water
Mix in diatomaceous earth and then filter under suction
Add a few drops of chloroform. Incubate at body temperature
Unstable. Maybe kept overnight in refrigerator.

P's

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Paradon (cellodine)

1:1 !00 % paradon and di-ethyl ether

Pepsin in HCl

10-2 gm Pepsin
100 ml 0.2% HCl

Pepsin Solution (make fresh)

1-2 gm Pepsin
100 ml water

Peroxides Test

Add 1 ml of 10% KI to 10 ml of solution to be tested. If brown color results in either layer peroxides are present and the solution should be discarded with proper precautions.

pH indicators

Brom Cresol green; 0.4 gm BCG, 500 ml 95% ethanol, 500 ml distilled water. Filter.
Cresol Red; Same procedure as above using 0.2gm cresol red
Thymol blue; Same as above using 0.5 gm of thymol blue
Phenolphthalein; 1.0 gm phenolphthalein in 50 ml of 95% ethanol and 50 ml of distilled water.

Phenol Cotton Blue

20 ml Carbohic acid
20 ml Lactic acid
40 ml Glycerine
20 ml Water
0.05 gm Cotton blue

Phenol Red Lactose Broth

10 gm Protease Peptone #3
1 gm Beef extract
5 gm Lactose

5 gm	Sodium Chloride
18 mg	Phenol red
1 liter	water

Phenoldisulfonic acid

Dissolve 25 gm pure white phenol crystals in 150 ml con Sulfuric acid. Add 75 ml fuming sulfuric acid (15% free SO4 Stir well and heat for 2 hours in water bath

Phenolphthalein

0.5 gm	Phenolphthalein
100 ml	50% ethanol

Phloroglucinol, HCl

Solution A; 1 gm phloroglucinol in 100 ml of 95% ethanol
Solution B; 50 ml con HCl in 50 ml distilled water

Phosphoric acid dilltuion

3 N 205 m/L 85%

Physiological saline, LOCKE'S

9 gm	NaCl
0.2 gm	NaHCO3
0.42 gm	KCl
0.25 gm	CaCl2
2 gm	dextrose
1000ml	distilled water

Dissolve CaCl2 in a little of the water and add it to the rest of the solution to prevent pcptation. Add dextrose only if specified, and then at the last moment.

Plant maceration fluid

1 part	10% Nitric acid
1 part	10% Chromic acid (chromic trioxide)

Boil material 1 min in water. Pour off water add acid, stir with glass rod and check at intervals until it begins to seperate. Pour off acid, put in white silk scarf or handkerchief and rinse with water for 12 hours. Drain off water and cover with 5 volumes of 70% ethanol.

Pollen Acetylizing Mixture

9 parts	Acetic Anhydride
1 part	con Sulfuric Acid

Pollen Mounting Medium, Dahl's

16 parts	85% Lactic acid
2 parts	N-Butyl alcohol
1 part	95% Ethanol

1 part Glacial Acetic Acid
 1 part Glycerine

Pollen Trapping Oil

2 parts melted white
 petrolatum
 1 part Parafin oil
 1 part butyl alcohol
 1 part xylene
 Mix in beaker on hot blate. Filter while warm; keep in
 stoppered containers, free from contamination.

Potassium Oxalate - Aquatic analysis tests for O2

20 gm K2-C2-O4*HOH dissolved in water Add 45 gm NaOH and
diltue to 1 liter with water.

Prescott's Preservative for Green Plant Material

6 parts water
 3 parts 95% ethanol
 1 part Formalin
 5 ml/100ml Glycerine
 Saturated with CuSO4 - decant leaving excess CuSO4

Preservative (Sutton's)

10% glycerine
 3% Phenol
 2% Formalin
 85% Water

Pseudomonas Ovalic Culture Medium

1% Yeast extract
 1% Beef extract
 1.8% agar

Pyrogallic Acid

50 mg KOH
 100 ml distilled water
 5 gm Pyrogallol

R 's

[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

Rat Ringers

0.9% NaCl
 0.24% CaCl2
 0.042% KCl
 0.02% NaHCO3
 0.1% Dextrose
 (if requested)

Rat Ringers, LOCKE'S

0.9% NaCl

0.24% CaCl2
 0.042% KCl
 0.02% NaHCO3
 0.1% Dextrose

Rennin Solution

1-2 gm Rennin
 100 ml water

Riboflavin Stock

Dissolve 5 mg of Riboflavin in 30 ml of 0.02N acetic acid.
 Warm in a water bath with constant rotation until dissolved.
 Cool to room temp and dilute to 100 ml by adding additional
 0.02N acetic acid. Store refrigerated.
 Standard - unstable
 10 ml of stock brought to 500 ml with distilled water.
 Working; Dilute 1:10 before using.

Ringers for lower vertebrates

0.65% NaCl
 0.02% KCl
 0.02% CaCl2
 0.02% NaHCO3

Ringers, Frog

0.8 gm NaCl
 0.02 gm CaCl2 anhydrous
 0.02 gm KCl
 0.02 gm NaHCO3
 100 ml distilled water
 ** 0.1 gm Dextrose
 ** add only if requested and if requested add just before
 use.

Ringers, Rat

0.9% NaCl
 0.24% CaCl2
 0.042% KCl
 0.02% NaHCO3
 0.1% Dextrose
 (if requested)

S ' S

[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

Safranin for plant material

Dissolve 1 gm of Safranin O in 50 ml of methyl cellosolve.
 After dissolved add:
 95% ethanol 25 ml
 distilled water 25 ml
 Sodium acetate 1 gm
 Formalin 2 ml

Saline, Insect

0.7% NaCl
 0.2 ml 10% CaCl2

Saline, Insect (Hayome)

0.7% NaCl in distilled

Saline, Physiological, Locke's

9 gm NaCl
0.2 gm NaHCO3
0.42 gm KCl
0.25 gm CaCl2
2 gm dextrose
100ml distilled water

Dissolve CaCl2 in a little of the water and add it to the rest of the solution to prevent pptation. Add dextrose only if specified, and then at the last moment.

SCHIFF'S REAGENT

5 gm Basic Fuchsin
1N HCl 100 ml
K2-S2-O5 10 gm
activated charcoal (norite) 5 gm

Disolve 5 grams of basic fuchsin in 900 ml boiling distilled water. Cool to 50 degrees C and add 100 ml of 1N HCl cool to 25 deg and then add 10 grams of K2S2O5. Shake 2 minutes and leave in the dark for 24 hours. Add 5 grams of fine activated charcoal, shake for 2 minutes and then filter through fast paper. Filtrate should be clear. Store in a foil covered bottle in the refrigerator

Schoudinn's Fluid

66 ml sat aq. Mercuric chloride
33 ml 95% ethanol
5 ml glacial acetic acid

Add acid just prior to use.

Semicon's Carmine

1 part glacial acetic acid
1 part water

Add carmine powder in excess of that which dissolves immediately. Heat to 95-100 deg C for 15 min. Cool and filter. Dilute filtrate eith equal partsw of 70% ethanol

Shellac solution for Kymographs

Dillute 1 volume of shellac with 2.5 volumes of 95% ethanol.

Smith's F.A.A.

90 ml 85% isopropanol
10 ml glacial acetic acid
10 ml Formalin

Soil Extract Agar

960 mls Bristols solution
40 ml soil water supnatant
15 gm agar

 Soil water Medium

In one gallon battery jar place 0.5 gm calcium carbonate enough garden soil to make a layer aprox 1/2 to 3/4 inch deep and distilled water to within one inch of the top. Cover with a glass plate and steam for 1 hour on 2 consecutive days.

 Spindle Inhibitor in Mitosis

0.01-0.05% Colchicine 4-6hrs
 sat aq Paradichlorobenzene
 4 hrs
 sat aq alpha bromonapthalen
 4 hrs

 Starch solutions

Make a thin slurry with the starch and a small amount of the water. Heat the rest of the water to boiling. Add starch slurry while stirring bring back to a boil. Cool before use. 0.1% final concentration works best for iodine test

 Sudan Black B

0.25 gm Sudan Black B
 100 ml Ethylene glycol
 Dissolves slowly - let stand overnight and filter.
 Very viscous.

 Sudan IV

Saturate sudan IV in absolute ethanol.

 Sulfanilic Acid

Completely dissolve 0.60 gm sulfanilic acid in 70 ml of hot distilled water. Cool the solution and add 20 ml con HCl. Dilute to 100 ml with distilled water and mix thoroughly.

 Sulfuric acid dillutions

3N 168 ml/L 95%

 Sutton's Preservative

10% Glycerine
 3% Phenol
 2% Formalin
 85% Water

 Sutton's preservative

10% glycerine
 3% Phenol
 2% Formalin
 85% Water

T'S

[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

Transeau's Fixative

6 parts supernatant of sat
 aq. CuSo4
3 parts 95% ethanol
1 part 40% aq. formalin

Trichrome Stain

0.6 gm Chromotrope 2R
0.3 gm Fast green FCF
0.7 gm Phosphotungstic acid
1 ml Glacial acetic acid
100 ml distilled water

Triple Stain, Mallory's

First Stain Solution; 1% acid fuchsin
Differentiating Moderating solution; 1% Phosphotungstic acid.

Second Staining Solution;
100 ml water
0.5 gm Analine blue
2.0 gm Orange G
2 gm Oxalic Acid

Tris-Maleate buffer

Dissolve 29 gm of maleic acid and 30.3 gm of tris-hydroxymethyl aminomethane in 500 ml of water. Add 2 g of Charcoal, shake and let stand for 10 min. Filter. Mix 40 ml of this stock solution with the amount of 1N NaOH indicated below and dillute to a final volume of 100 ml using water.

Turk's Diluting Fluid

1 ml Glacial acetic acid
1 ml Gentian Violet
100 ml distilled water
Filter before use

W'S

[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

Waris Solution

To 1 liter of distilled water add 1 ml of the following:
10% KNO3, 2% MgSO4*7HOH, 2% (NH4)2-HPO4
5% CaSO4,
Iron sequestrin solution (adjust to pH 6.0 with 0.01N HCl
or 0.01N KOH
= 2.61 gm Sequestrin AA
2.49 gm FeSO4*7HOH
27 ml 1 N KOH
500 ml distilled water

White blood cell dilution fluid

1% Glacial acetic acid

White's Basic Medium

0.1 gm Ca(NO3)2

0.08 gm KNO3
 0.035 gm MgSO4
 0.065 gm KCl
 0.0125 KH2-PO4
 0.00075 gm KI
 0.0044 gm MnSO4
 0.0025 gm Fe2-(SO4)3
 0.0015 gm ZnSO4
 0.0016 gm H3-BO4
 20 gm Sucrose
 Bring to 1 liter with distilled water.

Y'S

[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

Yeast in Congo Red

1 pkg dry yeast
 0.25-0.5gm Congo red
 150 ml water
 Add yeast to warm water and stir in congo red. Let stand
 all day. Heat to boiling and cool. Store in refrigerator.

Z'S

[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

Ziehl-Nielsen's Carbol-fuchsin - Acid Fast

0.3 gm Basic fuchsin
 90% dye content
 10 ml 95% ethanol
 5 gm Phenol
 95 ml distilled water
 Dissolve fuchsin in alcohol. Dissolve Phenol in water and
 then mix solutions.