CI LABORATORY NOTEBOOK

VOL XXX

May 22, 2023

I am in position to begin examining the EIS plots. DPlot has an issue of accessing the CSV files but I think that I can work my way through this obstacle. A capable plotting program is required to portray what has been noticed.

The solution is to open the PSData.CSV file w/ notepad and save it as an ANSI file w/ a .txt qualifier. This allows the file to be opened w/ dplot.

Let's sort through the data fields. 6 curves exist, 3 are visible. The three curves visible are Z, Z', Z''. Z is total impedance, Z' is real portion, Z'' is complex. Phase shift is $\tan(\phi) = Z''/Z'$

I think the only curve we need is Z vs frequency. Now the next thing needed is even intervals, smoothing, etc. To do this require monotonic increase in data so we first reverse the x axis by multiplication by (-1).

Next stage is create equal intervals w/ a spacing of .01 Hz. and replace existing curve.

But before we get too advanced here lets try to set all 3 Vax curves in play and average.

Ok, I have average of two Vax curves that show Z variation from 3-5 Hz.
Reverse X axis.
Equal intervals and replace curve.
Remove Trend
3rd Order Polynomial fit
Difference curve
Smooth Window 10.
The graph seems to show Z variation most readily.
Clear variation can be observed ~~4.6Hz, 3.1, & 2.9Hz~~ ~3 & 4.5 Hz. No differentiation required here.

We now have a combined plot that compares Z on the VAX and UNIVAX set. Clearly there is a diff in the 2-5 Hz range.

Next we will look at the 1-15 KHz data set for further comparison.

May 24 2023

I have isolated the influence of ELF energy (3-6Hz) upon the vax vs unvax samples. Impedance is the measured quantity and there does appear to be a difference between vax & Unvax samples.

There may be an additional signal @ ~ 4000 Hz. Let us look.

-4167 Hz - minor candidate
There does not appear to be an aberration significant enough to report here.

ELF variation between VAX & UNVAX does appear significant enough to report.

We need to title this graph
ELF Variation in Impedance - VAX vs UNVAX
n=5 Electrical Impedance Spectroscopy

May 26 2023

We now beg in to look @ the skin eruption issue. This will be knowledge on a significant event. We have ~~sample~~ plots of several sample types. Our first sample is an ear secretion, from the lobe, not the canal. The secretion came through the skin of the lower ear

Ok, we have a good graph to work from now. N=5
No trend, smoothed, normalized 0 to 1. Smooth window was 20 here, Δ=1.
Sample 01 Apr 24 2023.

903 Peak(1) CH Methyl (908)
931 Peak(2) CH methylene (930)
981 Peak(2) OH from water (reasonable)

1117 peak(3) No CRC 2012 Signal
1175 peak(3) CH alkene, polyenes (1170)

1203 peak(1) OH from water (reasonable)
1254 peak(3) No CRC2012 signal

1415 peak(3) CH Methylene 1415
1515 peak(3) NH polyamide (Very dominant signal)

1573 peak (2) NH polyamide (1570)

1601 peak (2) C=O/N-H Combination
Polyamide II

1651 peak (2) Methyl Bromnated (1655)
Nitro (1654)
Iodine (1661)
Chlorine (1661)

1682 peak (2) CH Aromatic (1680)
CH Methyl (1682)

Quite revealed would say
have signature
1. Methyl (highly dominant)
2. Methylene
3. Alkenes
4. Water (reasonable)
* 5. Polyamides (highly dominant) (3 Signals)
6. Methy Halogens, Nitro Candidates

Peak(1) = Strong Peak(3) = Weak

2nd sample analysis in May 02 2023, N=3

934 Peak(1) Methylene (930)
952 (Peak(2) OH Alkyl Alcohols (962)
1054 Peak(3) OH Water (1041) Reasonable
1147 Peak(2) CH Aromatic (1143) ArCH
1200 Peak(1) CH Methyl (1195) OH (Water) 1200
1305 Peak(3) No CHC 2012 Signal
1338 Peak(3) No CHC 2012 Signal
1403 Peak(1) CH Methyl (1396) OH from Methanol (1408)
1535 Peak(1) NH Polyamide (1538) N-H Ammonia (1534)
Polymeric Alcohol (1540)
1582 Peak(3) Alcohol or Water (1583) (1580)

1626 Peak(1) Vinyl & Vinylidene (1621, 1630, 1631)
1651 Peak(2) Methyl Nitro 1654

And now if we look @ both sample together as an average representation of the ear secretions

* 909 Peak(2) Methyl (908)
930 Peak(1) Methylene (930)
953 Peak(3) OH Alkyl alcohols (962)
1052 Peak(3) OH Alkyl Alcohols (1047)
1143 Peak(3) CH Aromatic (1143)
1180 Peak(3) CH Alkane (1170) Methyl (1194)
* 1203 Water (1200) Methylene (1211) Peak(1)
1336 Peak(3) No CHC signal
* 1412 Peak(1) Methylene (1410)
Alcohol (1410)
Methylene (1411)
Alcohol (1415)
Major Component Peak * 1524 Peak(1) Amide/Protein (1520)
Amine (1520)
Polyamide (1515)

* Series of small peaks ~1650 region Vinyl
Methyl Nitro
Methyl Halogens

There a Composite signature

Probably the best way to approach this is to list all groups and then rank accordingly to peak strength and multiplicity combined.

The average can disguise some of the strong features of either graph, esp by displacement.

Now the next question was looking @ skin in the affected area of the ear lobe secretion. We gathered plots using adjacent unaffected skin as a reference and then the affected skin as the spectrum compared to the normal skin reference. The most strong feature is the removal of water from the skin.

May 02

May 26, 2023 This is from DPLOT May 02 2023
Rt Ear affected Skin

Next we have another important NIR plot coming into play. The plot will look at the impact of the secretion from the ear region. Skin became
1. Plastic texture
2. Dry, stiff, scaly
3. Very irritated and sensitive.

A strong lack of absorbance here will be an important and telling an absorbance will be (ie ~1450).

931 Peak (2) Methylene (930)
978 Peak (2) OH from water
1012 Peak (2) NH primary aromatic amine (1015)
1069 Peak (2) OH alcohol or water (1065)
1155 Peak (3) Carbonyl C=O (1160)
1179 Peak (2) Alkene (1170)
1212 Peak (2) Methylene (1211)
1351 Peak (3) Methyl (1360)
Dominant Peak 1371 Peak (1) Methyl Aromatic (1370)
1432 Peak (3) Primary Amide (1430)
Aromatic Amine (1432)

1450 Major lack of absorbance at very dominant Valley vs peak

Water (1452)

An obvious clear sign of water removal (fluidity and flexibility) from the skin corresponding with visual and tactile observation

1484 Peak (3) Amide / Protein (1483)
Secondary Amine (1481, 1486)

1574 Peak (2) Polyamide (1570)
Amide (1570)

1602 Peak (3) Polyamide (1598)

1626 Peak (1) Vinyl (1621) (1630) Dominant Peak

1651 Peak (1) Methyl Nitro (1654) Dominant Peak

1672 Peak (2) CH Aromatic (1671)

NIR Analysis of Skin Secretion

The importance of the information is:

1. That it comes from inside of the body and correlates directly w/ previous blood & COB analysis
2. That it reflects direct impact upon the skin
3. That it is highly toxic to the skin and inhibits healing capability directly.

Jan 22 2023 & Jan 23 2023

I will begin inspecting samples received - blood clots are the subject of analysis.
Sample #1 will from "HR" (coded) in LA (coded)
Photographs of unboxing taken. Four samples:
1. Formalin storage liquid
2. "C" VAX - alive 10-27-2022
3. "L" UNVAX - 10-27-2022
4. "D" Delaied Clots.

Microscopic examination will be first.
Begin w/ sample "C" - Photographed & NR sample
Continue w/ sample "D" Photographed prepared

Now to sample L - Unvax clot visible
Photographed.

Four main components are visible:
1. Blood Cells
2. Filamentin
3. CDB
4. Protein

Now microscope is set lets get an update on the status of our blood.

Blood looks generally acceptable and coagulation is not evident. However, cell division is visible @ ~ 4% level. Mature red blood cells do not divide. Stem cells do divide asymmetrically. Also Cancers lead to uncontrollable division.

White blood cells do divide
Stem cells divide
The photographs show that stem blood stem cell production may be operative here. Cancer cells do not appear likely @ this point because they are not misshapen.

I would suggest that a stem cell production process is in place that must be regarded as unusual.

Some observations of the blood clots need to be recorded.

Initial Blood Clot Inspection:

"C" We have 3 samples. One is an individual that is alive & has received VAX.

"D" Another sample is deceased - VAX status is unknown.

"L" Another sample is UNVAX. Living or dead status is not known.

There are four identifying components regarding the samples above.

1. CDB
2. Filaments
3. Protein - Polymer nature
4. Blood cells

Jun 23 2023

Now let's look w/ NIR analysis of sample "C":
I want to look @ the background issue for suitable subtraction. We have

1. Preservative alone
2. Preservative w/ Clot solubles (eg blood cells)
3. Clot segregated.
4. Card surface alone

Lets first look @ the difference between 1 & 2.
Hold 1 as reference and see signal from 2.

Looks to be a very mild signal but we do have it.

I think all that we really need is the Clot vs the vial formalin from the sample C. So now adopt #2 as the reference.

We have a good signal here.

Plot analysis follows:

Before we get involved, notice that we have an especially prominent peak @ ~1442

1441 Primary aromatic amine
1443 Primary aromatic amine
1445 Primary aromatic amine

A polymer protein does not seem to be a bad assessment here...

Off we go:

936 Peak(2) CH Methylene (930)
1000 Ascend, deflection
1005 Subsequent Peak(1)
1003 Primary aromatic amine
1004 - 1006 Alcohol
(Note Sample is thoroughly dried)
1039 Peak(2) CH Methylene
1071 Peak(1) No CHC 2012 Signal
1129 Slope Break Descending
1142 Subsequent Peak(1) ArCH CH Aromatic (1142)
CH Aromatic (1143)
1170 Peak(2) CH Alkene, Polyenes
~1250 Peak(1) No CHC 2012 Signal
1310 Peak(2) NO CHC Signal
1372 Peak(3) ArCH3 (1370)
Methyl CH3 associated with Aromatic CH3
1442 Peak(3) Primary Aromatic Amine
(1441, 1443, 1445)
1503 Peak(2) Primary Aromatic Amine (1502.5)
1574 Peak(3) Poly amide (1570)
Amide / Protein (1590)
1628 Peak(2) Vinyl (1630)

1651 Methyl Brominated (1655) Peak (1)
Methyl Nitro and Methyl Halogens
(1654-1661)

Summary:

NIR analysis of clot repetitively demonstrate the following material:

A polymerized protein

as also supported by physical and observation of texture & character.

Solubility tests are next.

Jun 26 2023

I want to at least make an introductory study of solubility of the blood clots w/ the resource available

I have one report that gasoline has no effect.

1. Start w/ fuel injector cleaner - sample number 20.56
2. NaOH solution (lye) - tray ~~1.5~~ gms sample number w/ NaOH = 21.18 gms
   w/ H_2O added = 45.85 gms
   Stir.

3. ~10M H_2SO_4 sample floats in 10M H_2SO_4
   Need % Concentration by weight
   Density @ 25°C
   10% 1.1 kg(L) or gms/cm3
   50% 1.4
   75% 1.7
   100% ~1.8

Jun 28 2023

After 48 hrs of initial solubility trials, all trials are negative for solubility.

Trials are

1. Fuel injector cleaner
2. Sulfuric acid HRFMRE HRF
3. NaOH (lye)
4. Alcohol (Isoprop)

There may be the slightest trace of solubility w/ the NaOH solution so this trial will be prep reserved. NaOH slight solubility has a level of corroboration from the extensive previous work on efforts to analyze the filament & culture products, and the environmental filament.

Our trials now will add on ~1030 MDT w/ Full Set.

✓ 1. Acetone
2. Gasoline
✓ 3. Paint thinner
✓ 4. Stripper 25% 75% Acetone
5. NaOH is held
6. 50% DEET, 50% Acetone
7. Fuel Injector Cleaner
8. Sulfuric Acid
9. Alcohol

The modified balm for skin eruptions & sores only is now composed of:
~~2 OZS~~ ~ 3 oz.

1. Skin creme of choice (eg cocoa butter based, Shea butter based)

2. 2 Vitamin B complex items per ounce (Using 4 per 2 ounces (~approx)

3 teaspoon of baby powder

4. ~ 1/2 ounce of witch hazel

5. Max ~ max 1/2 oz combined of 90% isopropyl alcohol and 3% hydrogen peroxide

—

This is NOT the pain removing balm
NOT to be used on skin eruptions but
on source of pain.
~ 12oz - 16 oz:
· ½ Shea Butter and ½ Cocoa butter
provide base
~ 10% by volume of methyl salicylate
~ 2 oz tea tree oil
~ 2 tablespoons menthol crystals
~ 1 heaping teaspoon of dried powdered
Creosote bush (NOT the CREOSOTE
preservative!!!)
There are two types of "creosote".
There is the BUSH that grows in the
SW desert.

Jul 08 2023

NIR Leg Sore - Analysis

			We have
913	Peak (2)	Methyl (915)	Ear Secretion
942	Peak (1)	Methylene (930)	Ear Skin Delta
			Leg Sore Delta
1012	Peak (1)	NH Primary Aromatic Amine (1015)	Skin Flakes
1046	Peak (1)	OH alkyl alcohol (1041)	
1120	No CRC 2012 Signal		
* 1213	Peak (3)	Methylene (1215)	
1301	Peak (1)	No CRC 2012 Signal	
1364	Peak (1)	Methyl (1360)	
1450	No absorbance - Extreme lack of moisture)		
1600-1650	- Series of small peaks	Vinyl Polyamide Vinylidene	
~1700	High absorbance (Methly groups dominate 1690 - 1711		

To show current work organized:

(1) Skin Manipulation examples:
- 1. Photos
- 2. For sample types ... DPLOT by Title
  - Ear secretion — V29 May 26 2023
  - Ear skin Delta — V29 May 26 2023
  - Leg skin Delta
  - Skin Flakes
- 3. NIR Analysis of May 26 & May 02 data collected

(2) Blood Clot - Preliminary
1. Phone Photos
2. Microscopy
3. NIR Analysis on June 23, 2023

(3) Important blood observation - Skin Leakage
Preliminary

Jul 08 (Cont)

Rash / Sore Cream / paste is now composed of

1. Skin Creme of Choice (eg Cocoa Butter base) ~ 60%
2. Vitamin B Complex ~ 5%
3. Epsom Salt 5% – 10%
4. Alcohol 5%
5. Peroxide 5%
6. Witch Hazel 5%
7. Baking Soda * 5% – 10%

This is being rapidly superceded with Ultrasound developments near Aug 13 forward

This will foam up to ~ double volume. It will make a paste that will dry and stay on the affected skin for several hours.

Left to their own course and design, these sores that break open the skin from beneath do not heal. This is already known to be the case for a period of several months. The skin darkens before the sore develops to breaking the skin. If the sore develops a prolonge, the surrounding skin will swell with a fluid.

The sores are abnormally painful, including the surrounding skin. They can be painful

This protocol is rapidly being superseded by ultrasound study and lab observations starting near Aug 13 (end)

while still idle, w/out any motion or touch. The sore can show improvement and then redevelop. The scabs that form are of very long duration and static in nature. They are very painful when removed, even when the skin underneath has formed a "healy" layer.

Skin creme alone can be beneficial and slowly healy to the last presence if no sores are present (common over a 2-3 week period). Skin creme, and then for nothing exactly, does not heal the sores. Peroxide can be more painful, exacerbate the "sting" if it can be any sign of pores within, which it usually will. The skin is very much damaged and filled w/ toxins and painful. NIR analysis of affected skin and secretions has been made - classic CDB signature results.

Jul 09 2023

Two important NIR spectra are to be collected today.

1. The first is the inflamed skin next to normal skin from the reverse side of the ankle. There is a delta plot. It shows itself to be a strong plot w/ numerous well defined peaks.

2. The second will be what appears to be a blood clot on the lower left foot. There will also be a delta plot generated to show normal appearing adjacent skin.

Both plots have been highly successfully captured. Blood clot will show the aromatic amine very strongly.

Need to collect peak data.

Jul 16 2023

The Vit B foam creme will double in volume temporarily when the baking soda is added. It will eventually, over an hour or ~2 hours, settle back down to original volume.

Suggested approach to apply the paste to skin affected areas (tender skin areas & skin sores or more tender areas may not be possible - in this case skin creme alone will need to be used) and after it dries, ~~2-3 hrs~~ ~ to an hour, then coat it with a layer of skin creme (lightly) to "seal" it, and it will stay on the skin for many hours and will not "powder off" as quickly otherwise.

Very slow but steady healing of the skin & sores seems to take place with this method, otherwise the sore and skin problems can go on for months. It has existed for 4-5 months prior w/o this method, now w/in 2-3 weeks significant ~~healing~~ healing take place.

~~now observed on numerous~~

~~apparently~~ ← ~~occasion~~

It is now ~~clearly~~ established that the skin "balm" consists of

1. Shea butter & cocoa butter (50%, 50%)
2. Methy salicylate (~10%)
3. Menthol crystals (~5%)
4. Tea Tree Oil ~5%
5. Creosote bush dried powder (~5%)
   (the bush, not the preservative species)
   apparently also called chapparel.

When used in conjunction w/ significant increase in Vit B complex intake (internal & external w/ the skincreme paste)

Causes the toxins to come through the skin and produce the rash.

Therefore there seem to be in place a method to regulate and comfort the toxicity that will or can come through the skin. This is a combination of

1. Skincreme and/or foam paste use (healing effects)
2. The aromatic oil based balm (induces release through skin)

See Ultrasound Notes Developing ~ end of Aug 13 entry

Also the ~~bo~~ aromatic balm is known to significantly reduce ~~pain~~ internal pain. W/in the joints, etc. This was the primary use before it is now observed to produce a toxic skin release, apparently after the significant increase of Vit B complex was initiated several months ago.

Without this regulatory protocol the skin can become extremely damaged, painful, w/no healing capacity.

It is the lower legs and feet that seem to have been affected the most deeply. After the ear situation (which had a history of ~ 8 years +), the feet have been a serious issue for up to 10 years +. The foot situation has gradually escalated to where walking became a serious problem along w/ ~~clot~~ a clot visible in the lower left foot and varicose vein development in the left leg and left foot). The left foot was also affected the most over the years w/ respect to numbness.

Ultrasound is known to be disruptive and interrupts stationary development and increase w/in the body but it is not known to be actually healing.

What shows signs of actual healing (both in blood status and reduction of chronic pain locations) is the release by the material through the skin; apparently and connected w/ the methylation strategy of significant increases internally w/ the Vit B Complex.

Chronic sources of pain over 10-20 years have included

1. The right ear
2. The right shoulder
3. The upper right chest
4. Both feet, and especially the left foot
5. Varicose veins in the left leg.
6. Upper chest was a problem for ~2 years
7. Numerous gall bladder events (serious)
8. Urinary blockage w/ visible filaments

Ultrasound & the "balm" have been the primary protocols used over the past several years with some apparent success in "containment" and "management" under a "medical Chaos" scenario.

It is with the changes regarding increases in
1. Vitamin B complex
2. Enzymes
3. Electrolyte

and the significant changes in skin release of toxins that actually healy seem to be improving now, primarily as demonstrated by visual observation of the blood and reduced or lacky in coagulation. Also extractions like the ear, chest, feet have simply improved significantly and I am feely much optimistic w/ regard to all Chronic pain locations.

Lab Projects Ahead

Lab projects on tap now include:

1. Blood observation
2. Foot sore & foot skin NIR analysis
3. Consolidating numerous skin NIR analyses that have been completed
4. Examine clot solubility trials w/ hope for electrochemical analysis
   - Microwave digestion is the next strategy (when a microwave becomes available)
5. A new "insulin" project
6. Additional clot samples to be analyzed:
7. Acidic presumption on clots?
   Solubility and titration work?

Jul 21 2023

I now have two more NIR plots of importance to evaluate. They are on the notes of the skin sore on the leg and the adjacent reference and control skin. Also one of affected skin

Let's look at the leg sore delta NIR plots
Select peaks: Parentheses are weights 1=weak 3=strong

912 Methyl (2)

1050 Alkyl Alcohol (1) [Dismiss]

1213 Methylene (3)

1306 No CRC 2012 match

1364 Methyl (2)

1450 LACK OF ABSORBANCE - H_2O (3)

Assessment: Dominance of Methyl groups and dirth of water in the skin.

NIR analysis: Affected skin adjacent to Leg Sore Weights in Parentheses

927 (2) Methylene (930)

971 (3) Possible alkyl alcohol (962)
Possible H_2O (979) Less likely w/ 1456 peak

1165 (3) Carbonyl (1160)
Alkene (1170)

1242 (1) No CRC Match 2012

Dominant Peaks → 1383 (3) Methyl (1390)

~~1456~~ LACK OF ABSORBANCE H_2O

1538 (1) Polyamide (1538)

1572 (2) Polyamide (1572)

1601 (2) Polyamide (1598)

1634 (2) Vinyl (1635)

1662 (2) Methyl (1661)

1684 (1) Methyl or Aromatic C-H

Assesment:

Dominant groups are methyl & polyamide, and the significant loss of water in the skin.

These likely a very revealing and important plot & study in depth.

Aug 02 2022

I have the ultrasound instrument available again.
There is good news. Even in the most portable sense
I have been able to be operational now in

1. Microscopy (~2000x)
2. NIR
3. Electrochemistry
4. & now ultrasound.

WHO manual is also available - very valuable.
I am setup w/ Pocus Course.

CRC Chap 8 & 9 are on arterial & venous
ultrasound

Aug 05 2022

Let's establish some goals w/ the ultrasound.
You have your first tangible image of the thyroid.

1. It does raise some questions as the cyst known to exist does appear to have been captured. Also there appears to be damage or destruction to the same left lobe that the presumed Cyst resides in.

2. What does a blood clot in ultrasound look like?

3. You now have 3 good references:
   1. Very well written entry ultrasound book CRC
   2. WHO manual, but unfortunately substandard images
   3. Online course on selective topics
      (Does not cover many portions of the body but still helpful)

4. Continued identification of organs and appearance of ultrasound images

Ultrasound is very much used to diagnose Deep Vein Thrombosis (DVT)

The skin become discolored when this is happening. Purple, red.

Aug 10 2023

I am gradually getting some laboratory instrument capability again. I am in the process of activating the

1. Full scale UV-VIS spectrometer again
2. The first class microscope.
3. The Ultrasound

The means we are becoming operational with:

1. The field microscope (~1400X)
2. The full size quality microscope (~5000)
3. NMR - absolutely crucial
4. Electrochemistry - fully operational
5. Ultrasound - energy source & therapeutic
6. Full size UV-VIS spectrometer
   Risco require repair
7. Binocular microscope - no image collection
7. Down the road there should also be
   Titration
   MID IR & Gas Chromatography a wild dream now.

NIR - Insulin Samples.

Both plots of samples 1 & 2 are similar enough to average.

918 Methyl (1) (915)

1203 OH Water (2) (1200)

(sample generally is dry, however)

Methyl (possible) (1195) but less likely

1369 Methyl (1370) (1)

1505 Aromatic Amine (1502.5) (3)

Amide/Protein (1510)

1577 OH Alcohols or Water (1580) (3)

Weights

(1) Weak Peak

(2) Moderate Peak

(3) Strong Peak

Insulin: peptide hormone containing two peptide chains linked by disulfide bridges.

Human $C_{254}H_{383}N_{65}O_{77}S_6$

Aug 11 2023

One immediate interest of mine is whether ultrasound has any visible effect upon a clot sample.

Second, the condition of the standing blood (refrigerated) 2-3 mos old has interest.

Third, the solubility status of the clots interests me

—

The two to three month old refrigerated blood samples under the scope do not show themselves to be viable samples, at least as representing live fresh blood. The cells have diminished to ~ 3 microns in diameter, presumably because of drying of the cells and/or loss of water. The sample may be useful in other ways but not of immediate value.

—

OK, the solubility tests have now become interesting. This work was posted on Jul 10 2023
The actual work was done near Jun 26-28

There are two reactions that have taken place after 1½ months of sitting, therefore.

The ~~NaOH~~ NaOH sample looks to be completely dissolved. It is the ONLY sample that shows such. The other sample that shows some reaction is that of 75% acetone, 25% stripper - it looks to have created an emulsion. All other samples show no effect
Therefore we have:

1. NaOH solution: Completely dissolved
2. 75% Acetone, 25% stripper. Emulsion on bottom. Vast majority of sample remains undissolved.
3. Paint thinner - no reaction
4. Gasoline - no reaction
5. 75% DEET, 25% Acetone - slight color to vial but no significant breakdown
6. Acetone - no reaction

Also from initial observations, H_2SO_4 had no effect. From initial observations, NaOH is the only agent that showed any reaction.

The result w/ NaOH further confirms that we are dealing w/ an acidic polymerized problem.

The five types of chemical reactions are:

1. Combination — $A + B \rightarrow AB$
2. Decomposition — $AB \rightarrow A + B$
3. Single replacement — $AB + C = AC + B$
4. Double replacement — $AB + CD = AC + BD$
5. Combustion (sort of) — $A + O_2 = B + H_2O$

$H_2 + O_2 \rightarrow H_2O$ (also combination)

(Propane) $C_3H_8 + 5O_2 \rightarrow 3O_2 + 4H_2O$

An acid-base reaction is a type of double replacement reaction that occurs between an acid and a base. The H^+ ion in the acid reacts w/ the OH^- ion in the base to form water and an ionic salt.

The establishment of the acid-base reaction of the clot is significant. It now allows the ~~salt~~ solution to be subject to

1. UV-VIS
2. Electrochemistry (inorganic analysis, esp.)
3. further NIR analysis

You will want to learn as much as you can about what has taken place in the reaction —

What type of salt has been formed?

There are some results accumulated so already

1. Photos of fresh blood show that the CD B appear to be directly implicated in the coagulation process. Also the overlap w/ the "transformation of a species" is very apparent.

2. We learn that NaOH does drastically dissolve the clot & room temperature.
2B. We have USB 10x Control photos of the clot.
3. We learn that ultrasound may contribute to a breakdown, or alteration of the protein structure. We also learn that the protein does likely absorb ultrasound energy as accompanied by heat. A control of immersion oil alone is required.

4. Post inspection of ultrasound treated & the clot via microscope may show alteration. We see the protein but blood cells may have been altered as well. We need a control of no ultrasound in immersion oil under microscope.

It appears to me that the slide is composed of blood cells and protein (found one filament) but that the blood cells seem unusually small. Also very easy to prepare the slide this time w/ the clot post ultrasound

5. Immersion oil appears to make an excellent slide.

There is, therefore, a very clear difference between a clot that has been subjected to ultrasound and one that has not. At this point, it appears that the blood cells may separate themselves from the protein structure. Clearly there is a separation into two distinct structural forms. One is presumed to be the COB complex, the other is presumed to be blood cell dominant.

I now have a NIR plot of the decreased individual blood clot that has dissolved in NaOH. This is of much interest. Also, how will it compare to the direct NIR plot of the blood clot. Dissolving the clot is an important step.

Dissolved Blood Clot NIR in NaOH

FNI area of activity:

927 (1) Methylene (930)

952 (1) 962 OH Alkyl Alcohol

1329 (2) No CRC 2012 listing

1403 (3) OH Methanol (1408)
Methylene (1410) OH Hydroxyl (1410)

1540 (1) 1540 (Polymeric Alcohol)
1530 Polyamide

1611 (3) 1611 CH Aromatic

Now a comparison has been established between the NIR plots of the solid vs the dissolved Cbt in NaOH.

The results are surprising to me. More than anything they have the appearance of being mirror images of each other. It has been difficult to interpret this. It says that they are two entirely different things. That part actually does make sense.

It is saying that dissolving the Cbt completely changes its nature.

However, the inorganics, eg metals, are expected to be the same. This is the primary value of being able to dissolve something - to allow for inorganic analysis.

The says that electrochemistry is next. Ions in solution are transparent to either graph.

We add this to our list of available spectra

*

Early
Status - Accomplishments Aug 11 2023

We therefore have

1. Photos of blood directly in evidence of CDB
   being the responsible agent for clotting

2. NaOH dissolves the blood clot - sets precedent
   for electrochemical inorganic analysis.
   (does electricity still produce the CDB?)

3. USB camera photos of the clot

4. Ultrasound photographs - evidence of
   degrading the clot

5. Microscopy shown alterations of the
   clot via ultrasound.

6. NIR comparison plot of solid vs dissolved clot.
   They are completely different. Once again sets
   the precedent for inorganic electrochemistry
   analysis - these should remain across
   each sample.

Many events are taking place now after the use of ultrasound. The changes are based upon the observation today of the effect of Ultrasound (US) upon the clot.

I have avoided any ultrasound on my ankles for the last 4-6 months because of the extreme distress that I have had there for the same time period. There is because adding more pain than already they experienced was not desirable. It is also true that one of the first largest sores that erupted occurred after the application of US on that same location. The skin turned a dark pigment and then a large sore erupted on that same location. It took approximately 4 months to "heal" over but true and complete healing never did take place. The quality of skin in the interior ankle on both sides has never returned to normal and healing has never completed. The area of both ankles is identical location/region that has been in great distress over the last 6 months.

No skin balms or lotion methods that have been used completely resolve the problem although the greatest relief in general does come from the use of skin creme. Alcohol, peroxide, witch hazel, baking soda, etc — nothing has brought forth true healing.

I am at the point where the majority of the sores have "healed over" but they are NOT healed. Constant distress and pain and itch and skin sensitivity remains. Any break in the skin is grossly painful and they simply do not heal. Insect bites only aggravate the situation tremendously. The skin has hardened nodules that remain perpetually. Fluid buildup also occurs mainly @ the evening hours.

Several days ago I had what I know most likely to be lymph fluid throughout my neck and my right ear became a problem again. Peroxide does relieve some of the discomfort in the ear.

I decided to try ultrasound on the neck. It produced rapid relief and the ear returned to normal w/in the hour and that activation has not reoccurred.

Even though I maintain one open core, I decided tonight to apply the US to the ankle region w/ special emphasis upon the "nodules" that remain under the skin.

The experience has been amazing. Obviously a very direct and immediate response to the US. The heat generated was quite amazing and it traveled across the entire diameter of the ankle to the other side. At times the mild threshold of US pain was also reached.

TREMENDOUS relief appears to have resulted from the US treatment of the ankles. For the 1st time ever felt in the ankle like direct communication w/ the problem ever occurred. There was a tremendous release of energy in the process, with the after effect of dramatic reduction in skin itch and discomfort.

I will be repeating this treatment of sequently
!!! over the next few days to see if
actual healing or improvement takes place.

Ultrasound has now assumed even greater
and the highest interest w/in the
!!! research. All sayings are now, even
direct lab observation, that protein
disruption does indeed take place w/
the application of ultrasound.

I will now also start working
VERY AGGRESSIVELY on the varicose
vein region of the inside thigh. I know
this to be a significant and threatening
x condition. US imaging leads me to believe
that I have a 60 mm x 8 mm clot
w/in this region. Knowing now
what visible effect US has and can
* be demonstrated, I will work very
aggressively on all of these affected
regions, especially the left leg and
both ankles.

Jan 12 2022

NIR - master plot will be made.

—

Immediate questions ahead:

1. How does VS affect the Clot NIR plot?
   How do you want to design the test?
   Reference inj. - commercial oil?

2. Electrochemistry / NaOH dissolved plot
   is important.

3. The master plots are going to become increasingly relevant.

4. The drug agents in knowledge of the clotting mechanism and means by which it may be disrupted or affected.

5. You want to get to UV-VIS spectrometer testing.
   You know from historical use UV-VIS has the following main applications:
   1. Establish difference or similarity between colorless organic solutions.
   2. With a proper color reagent, determine if a chemical change in a colored solution take place, e.g. protein detection, blood, etc.

Some Candidates for Clotting influence (blood might be used).

1. Ultrasound
2. Enzyme
3. Bromelain
4. Natokinerase
5. Fish oil?
6. Vitamin B - methylation

Chemistry of the progression from a likely soluble protein to an acidic polymerized protein is going to be crucial. Need to seriously revisit the soluble protein IR plots. Look up what you identified on the nature of these soluble proteins.

Phosphorus acid chemistry?

—

The ultrasound reaction w/ the leg sores on the ankle was not as severe as yesterday but nevertheless still very significant. Less heat but still significant pain centers. The varicose region is very severe and will be long term.

Now since you can see the coagulation process take place on even a dried blood smear, blood may be usable as the testing medium. Live blood analysis is going to be important. I do not know how I would couple live blood analysis w/ US.

It would be very valuable if you could gain access to the soluble protein form in the body.

You do need to get the cultures active again

You need a NIR plot of the culture soluble protein as soon as possible.
Then ideally you need to learn what would cause it to polymerize and compare that w/ the clot.
Then you need to inhibit the polymerization.

Let's design a Clot Ultrasound test.

1. Card stock reference

2. One sample unaffected

3. Same sample w/ Ultrasound applied.

Question: Can we get an adequate US reg sol w/out immersion oil applied?

I see now that the Clot - US test performed yesterday w/ microscopy was the unvaxxed sample, NOT the deceased sample. This may explain, and likely does, why so many blood cells were separated from the sample. This clarifies some of the confusion regarding that sample viewing as to why so many blood cells were apparent. Regardless, there does remain a distinct visual difference between the two viewings, one w/out US applied and the other with US. Therefore US did have a major impact upon the sample, still suggesting the separation of the blood cells from the protein.

Aug 12 2023 (cont)

We have some very interesting information coming forth. The topic is the impact of US upon a blood clot. The clot in this case is that of a living unexposed person. The nature of the clot may be quite different from the deceased clot (per original NIR plots) so be cautious and wary of that fact.

As I recall, the clot was NOT extracted from a living individual. It came from blood that was extracted from a living person and then allowed to clot whereby the clot formed. This could indeed be substantially different from the deceased clot.

What was done is to prepare two samples from the same clot.

1. Both had a drop of immersion oil applied to allow US conductivity. Samples were placed upon a glass slide by the oil drop.

2. US was applied to one sample. The sample did show evidence of the probe heating up during yesterday's microscopy session. That is favorable as it shows energy was applied.

3. US was applied for ~10 mins.
4. Both samples were then transferred to white card stock for NIR analysis.

5. Two references were established.
   1. The first reference is that of a drop of immersion oil alone.

   2. The second reference is that of the sample w/out US applied but w/a drop of immersion oil within.

6. Two plots were then captured (NIR)
   1. The first plot is that of only the immersion oil & the card stock as the reference. NIR was then taken of the clot/sample w/ immersion oil within but NO US applied.

   2. The second plot adopts the previous NIR outcome and then establishes a difference plot showing the impact of US upon the reference sample. The shows us what functional groups are most likely affected by application of the US.

This entire process will need to be repeated for the deceased blood clot, as the nature of that sample may be quite different from the clot from the "living unvaxxed" examined today. Nevertheless, let us see what functional groups were likely affected - this means that the difference plot is where our interest lies.

(1) = weak signal (3) = strong

905 (3) Methyl (908)

1078 (2) Alcohols or water (1065) Could be drying of sample

Weak 1180 (1) Alkene, polyene (1170) weak signal
Methyl (1194) weak

1415 (2) Methylene (1415)
Aromatic - CH (1417)

1640 (3) CH from vinyl group (1637)
CH Vinyl (1635)

1685 (2) CH aromatic (1685)
CH Methyl (1682)
CH Methyl (1688)

1530 (1) Amide, Amine (1530) Ammonia in Water 1534

* We therefore have 3 candidate functional groups that may be affected w/ the application of US
1. Methyl 2. Aromatic 3. Vinyl

This is therefore a very important accomplishment to now keep on the table.

The entire test will now need to be repeated for the deceased Clot.

We now also look @ the record for these functional groups w/ in skin and secretion analyses that have been made.

Even if ultrasound is not used to impact or denigrate these structures or functional groups, anything that can will be of interest.

The search term "methyl aromatic ~~vinyl~~ vinyl" will quickly bring you into the chemical class of

1. Vinyl aromatic polymers

and

2. Vinyl polymers

which will then also lead you strongly into polyvinyl alcohol.

Ok, guess what? The handwriting is all over the wall.

There are numerous, numerous papers on the ultrasonic degradation of polyvinyl alcohol.

It is a very well established phenomenon. There are commercial devices available.

Now we have another sample run, this time of the clot from a deceased individual. This clot seems to be fully polymerized as noted before and a much more resilient sample. No blood cells or blood color in vial. Strong rubbery texture.

The NIR plot is quite different, as we will see. This is also a different plot.

What we see from these two plots is that ultrasound has quite a different impact upon the deceased (fully polymerized) clot. Vs the clot from the living person with blood allowed to stand.

NIR Ultrasound Difference Plot

There are a series of broad weak peak that seem to join together.

1025 (1) Aromatic Amine (1023 & 1026.5)
1063 (1) OH (1065) Alcohol or Water
1089 (1) No CRC 2012 match

and

1134 (2) CH Aromatic (1142) (A high there)

1209 (3) Methylene CH_2

1305 (1) Weak broad peak No CRC 2012 match
1369 (1) Weak broad peak Methyl associated with Aromatic $ArCH_3$ (1370)

1508 (1) Weak peak NH Amide Amide / Protein
1598 (1) Weak peak + Polyamide

This plot indicate some level of disturbance to the protein / aromatic structure, which we know the evolved structure to consist of, i.e. acidic polymerized protein

The data is showing a progression in the less evolved state to be of the polyvinyl nature, ie, higher solubility level and more easily integrated within the tissue and blood structure. At the evolved state it becomes highly resilient and very difficult to break down. US appears to have some degrading impact in both cases, but is likely higher within the polyvinyl state as opposed to the polymerized form. The literature as well as commercial products are replete with evidence of polyvinyl degradation w/ the use of ultrasound.

Impact of US on the "Living" clot was prominently visible and evident under the microscope. (Anticipated higher polyvinyl alcohol content).

Aug 13 2023

Topics on the table today:

1. You want to see how live blood behaves as well as acquire other samples

2. Electrochemistry of dissolved clot in NaOH is important to set in place.

3. I want to get the UV-VIS operating.

4. Aug 11 has a list of 6 accomplishments. We now add:

X 7. The influence of ultrasound w.r.t. specific functional groups is now introduced. This shows us that this varies according to the state of evolution of the clot and sets an important stage for the transition from a more soluble form of the clot against a fully polymerized clot. The chemistry of this is critical to understand and I suspect that it will involve transition from amide to amine. Look @ all NIR plots carefully and also buy in MID IR into the picture.

5. I want to start looking @ the chemical transition from a less dense to a fully polymerized clot. How can we see the difference? NIR is the main tool of course.

Do we have this already? NO!
We only have the deleted clot!
We need NIR of the "Living Clot" - very important to look for difference from the fully polymerized clot. This is critical. We also have other clots available so they are all going to be useful now to reflect different stages of development. This is now Priority 1.

—

It is important to distinguish between the 3 clots received and how the NIR may differ. Our work w/ microscopy started w/ sample L unvaxxed. This appears to be the least dense clot as evidenced by the amount of free blood in the sample. This person is living.

We have 3 clots:
1. Deceased "D"
2. Living "C" Vaxxed
3. Living "L" Unvaxxed.

There are very important differences to now take into account and study. Thus far we have only made a direct NIR analysis of #1 - Deceased - "D". Fully polymerized Clot.

Now, what we have done w/ 2 separate clots is to compare the impact of ultrasound upon them. This has been done for samples:

1. #3 Living "L" (least dense clot) unvaxxed
2. #1 Deceased "D" (fully polymerized)
3. #2 Living "C" (VAXXED) Moderate density

We have the difference plots of the impact of ultrasound upon each and it is revealing of the likely difference in polyvinyl alcohol vs fully formed proteins. This discussion is prior on Aug 11.

What we now need to do is make a careful NIR analysis of all 3 clots and look for differences in Chemistry. So far we only have the "D" deceased, fully polymerized Clot. Here we go.

Now remember to subtract our formalin solution as a part of the reference. Most of it has leaked out but we still have enough for the reference.

—

You should also look @ a difference plot between the VAX & UNVAX samples.

—

I do have microscopy on all three clot samples, but there is some question about what sample was used for the NIR work previously — the presumption is that it was the deceased individual.

Actually this is not correct. Indeed the NIR analysis was from sample "C" Living vaxxed Moderate Density.

This means all NIR plots are to be reviewed for many accuracy.

Formalin on Card stock will be taken at the reference

—

We now have a combined plot of all 3 clot sample side by side in a combined plot. This is going to be very insightful.

We should learn quite a bit from this now some difference plots can also be very helpful

Let 1=C 2=D 3=L

1-2 The are combinations VAX C ⇔ D DEAD

1-3 VAX C ⇔ L UNVAX

2-3 ~~⇔~~

DEAD D ⇔ L UNVAXED

Set left column as reference.

Set right column as difference plot.

—

OK these are incredibly important spectra that are now available.

In the first time we can evaluate difference within the groups.

At a cursory glance, there is

1. Little difference between VAX & DECEASED.
2. Great difference between VAX & UNVAX
3. Great difference between DECEASED & UNVAXXED.

Very, very powerful graphs

This difference NIR plot that you developed is going to be very insightful as to setting the direction and understanding. It will show relationships and impacts going on between VAX, UNVAX & deceased individuals. Hydrocarbon & proteins do show up as being a heart of the issue - no surprise there as we look @ protein analysis.

I am observing a pattern of US application on the ankle sores & the inner thigh varicose vein region. US is being applied 3 times per day for ~10 min on each affected area. The pattern is that the skin creme used for US is wiped off after the 10 min session and then a fresh coating of skin creme is applied.

What is noticed is that there is considerable relief to the skin irritations after the is done. Within 5-10 min the skin irritation is at relative ease. After an hour or so passes the newer skin creme is redistributed and this allows for relief commonly for 3-[illegible] @ a time.

This raises the question of whether the skin creme is absorbing toxins that may be released by the application of US. ??

This should be determined w/ NIR analysis of the skin creme residue post and pre application of US.

Add that one to the list to be done.
It does seem to be a definite pattern emerging.

Differential plots w/ the coffee filter blood samples may be possible.

Aug 15 2023

Let's continue - agenda items

1. Difference plots from blood samples on coffee filter could be helpful.
2. Analyze the embalmer clot difference series and record the data.
3. Electrokinetics of dissolved clot

Accomplish:

1. COB - Coagulation photos in place
2. Dissolved clot in NaOH
3. Low mag USB photos of clots
4. Ultrasound degrading the clots - USB photos
5. Ultrasound modifying the clots - High pwr microscopy
6. NIR comparison of solid vs dissolved clot.
7. Important DIFFERENCE plots of 3 clot variations

Recall that you have live blood samples (refrigerated) in addition to the filter paper samples.

You also have one sample from 04/20.

Let's think about how you would like to do the test.

Now w/ a sample size of 5 each, vax & unvax, reviewing the NIR plots, I am not confident yet that any meaningful statistical difference can be identified between the two.

Wavelength

1st overtone 1690 - 1755 nm .01

2nd " 1100-1200 ~~850-8800~~ nm .001

3rd " 850-920 ~~1200-14~~ .0001

The more to the right of the plot, the steeper the signals are. Further to the right approaching 1st overtone, the more dense.

To the left of the plot in the 3rd overtone a hundred times smaller than the 1st overtone.

But I can detect signal across the entire range.

On a general basis, when you look @ the plots you see no obvious statistical difference.

Above what was determined prior.

I see no meaningful course to continue to pursue here.

The next most important item to pursue?

1. Is the protein of the culture the same protein in the clot (esp deceased?)? How would you know this?

2. What do the other clots tell us?
3. What causes polymerization?
4. What is the relation between amide & amines in protein guession?
5. If DNA is altered, would it now not allow for protein changes in the body? You may never be able to interfere with it.
6. Ultrasound is clearly degrading the protein in the skin
7. How do we show that the protein in the skin is the same as the protein in the clot?
8. What is the NIR plot of the soluble culture protein
9. What does the NIR plot of the soluble protein tell us, ie the MID IR plot.
10. Can you form a polymerized clot by incubation @ room temperature?

Now if you were to look intently for any difference, the smoothed detrended plots appear to be the most helpful.
What we see is

1. ~~Vax p~~ Vivax peak @ 955 shifts to 926.
~~in~~ within VAX.

Now 955(3) (962) is Alkyl Alcohol R-C-OH
It really is not even in methyl range
but
926(3) (930) is methylene
which is hydrocarbon territory CH_2

The could actually be important as I believe we see that same impact w/ in the clot difference.

So let us study this plot more w.r.t. SHIFTS in wavelength vs the general form. Small details might be important here.

Revised w/ strengthened data set

We may have another shift of potential significance that is saying the same thing.

Lack of Absorbance ~~At 1224 in the~~ At 1220 in the Univax sample, our strongest candidate is

1215 CH Methylene (Chain hydrocarbon)

or 1225 is CH, ie C–H.

a tail end.



Now in the VAX sample, we have a visible shift to 1224.

This clearly then biases to the CH form.

This once again indicates a disturbance in a ~~hydrog~~ hydrocarbon chain, possibly a swap of one for the other.

* "Most polymers are hydrocarbons"

Pitch is also a natural polymer – remember our tar? Star chromatography, pyrolysis, toxicity?

I need to reconstruct the culture ~~po~~ protein as rapidly as possible.

There now become two significant observation between VAX and UNVAX w.r.t. NIR blood analysis

1. The apparent shift into the formation of hydrocarbon chains (ie polymers) in the blood. This ultimately leads to clot formation. This observation looks also to be supported w/ analysis of the clot difference plots w/a focus on hydrocarbon disturbance.

* We are getting somewhere, aren't we?

Now what you could do is gather more of the UNVAX data that you have available and strengthen the observation set.

Our pricing of the data does include trend removal and smoothing.

—

You have your data sets mixed up.

VAX set N=5

UNVAX set N=10

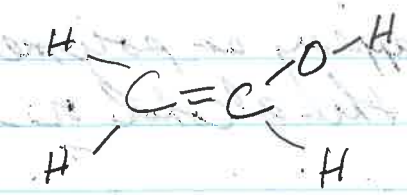
Repeat plot from scratch.
Ok, we have done so, and now have a strengthened data set w/ N=15
Here is what we see:

1. In both VAX and VNVAX you have two peaks both centered @ ~ 916

This equates to a methyl group in both cases.

916 Methyl(3) 915
However, in the VAX set you have an additional and different peak @ 956

959 Alkyl Alcohol (962) R-C-OH
There really is not any competition to this
Now vinyl alcohol does satisfy this structure



and then polyvinyl alcohol would join these together.
Notice double carbon bond would make it reactive.

This suggests that w/in the VAXXED, the seed is planted to be able to create polyvinyl alcohol, or at least could be.
You would next need to understand what reactions turn vinyl alcohol into polyvinyl alcohol.

The strengthened data set does change the hydrocarbon proposal ~~in the~~ but does not reduce the significance - it likely increases it.

What did happen is that the methylene group at 926 shifts to 916, become methyl and is common to both groups.

This all becomes quite consistent w/ the general findings. It would make sense that clots beg in appearing as polymerization kicks in, either thru alcohol or hydrocarbon paths.

Next our ~~peaks~~ valleys are @

UNVAX 1220] These are dips in the CH_2 or CH
VAX 1223] region. DIPs — no further
analysis @ this time. No significant shift apparent.

There really is nothing else of great significance to be said.

What we see is the case for ~~introduction~~ of an alcohol, especially vinyl alcohol, via VAX.

We therefore add to our list of discovery that an alkyl alcohol, of which Polyvinyl alcohol matches R-C-OH appears to be introduced into the VAX population

#8

Aug 16 2023 Lots going on here...

Recalling status:

1. CDB coagulation evident - microscopy
2. Dissolved clot in NaOH
3. Low mag USB photos of clot & w/ ultrasound
4. Ultrasound degrades the clots - USB photos
5. Ultrasound alteration of clots - high level microscopy
6. NIR comparison of solid vs dissolved clot
7. Difference plot NIR of 3 variable category clots
8. Difference plot NIR of VAX vs UNVAX - Coffee filter samples
9. Ultrasound clearly showing itself to ~~heal~~ heal ~~skin~~ chronic skin sores. Ultrasound also appears to draw up toxins to upper skin. US therefore having multiple impact.

Ahead now

1. Initial lab setup can now begin
2. NIR analysis of clot variations required
3. Need to ~~reconstruct~~ culture immediately - soluble ~~protein~~ protein is critical for comparison

~~Lautte~~ Laundry List:

4. Chemistry comparison as critical:
   1. Five topic NIR plots - skin lesions, ear secretion, ankle etc have been overlooked and require serious comparison
   2. MID NIR of soluble protein critical
   3. Need NIR of soluble protein as it is developed
   4. Chemistry study:
      Amide - Amine progression
      Flame test on Clot
      Hydrocarbon chain in Clot
      Alcohol group identified in blood
      Acidic nature of clot polymerized protein

5. Electrochemistry of dissolved clot
   Need specific inorganics, metal, etc
   Need to compare to NIR of COB isolated layer
   electrochemical analysis - altered blood serum.

6. Need more blood samples for coagulation study
7. Need live blood CEC coagulation study under good scope.
8. Dr Ana rain paper help.
9. Need Flame Test on Clot

The lab is taking initial shape.

Aug 16 2023

Ok, lets look @ the embalmer clot NIR difference plots between VAX, UNVAX, deceased. One most strong plot in the UNVAX (reference) & VAX (target). Well look for both structural and chyt differences. WTS: (1) Weak (3) Strong

921 (3) Methyl (915) $\Delta = 6$
Methylene (930) $\Delta = 9$
Bias is towards the methyl group

1230 ~ CH_2 o.CH (1225) (3)
Aliphatic Hydrocarbons
1389 CH Methyl (1390) (1) associated w aliphatic CH_3 $(CH_2)_N$ CH_3 - Hydrocarbon
1454 1452.5 Aromatic Amine (3)
1452 SiO (Silicone)
OH (water) (1452 & 1453) Unlikely due to dried sample
~1550 1550 Secondary amide in proteins (1)
1545 Secondary amine (R-NH-R)
1550 OH water (unlikely due to dried sample)

(beyond ELF)

VAX VS UNVAX – Additional Potential Differences

So what do we see here?

From the blood clot perspective, between a unvax and vax sample, we see w/in the vax sample likely disturbances in a presence of

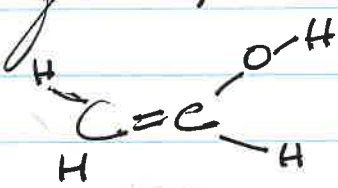
1. Methy groups combined w/ aliphatic hydrocarbon chain formation (ie, polymerization).

2. The presence of additional amide, amine, protein groups. Some possibility of Silicone (SiO) also exists.

Now from the "Coffee Filter" blood NIR difference plots (ie blood, not clot) – therefore in a different state of evolution, we see the

1. Presence of an alkyl alcohol group w/in the VAX group set (N=5) of the form R–C–OH.

Vinyl Alcohol structure in



which would satisfy the functional group requirement. We may therefore have a precedent for examination of the polyvinyl alcohol question.

Aug 16 2023 (cont)

Did ultrasound change the NIR of the clot?
If so, how? Let's review our notes.
Yes, this

The answer is yes, and the work took place around Aug 12.

Less dense clot result:
1. Methyl, Aromatic, Vinyl affected in the less dense clot.

2: Dense Clot:
Protein, Aromatic disulfide

Aug 11 2023

The laboratory setup continues to improve. I now have

1. The FTIR library available - original & direct
2. Titration - initial stages
3. The full microscope
4. Ultrasound available
5. UV-VIS
6. Microwave & heating
7. Hopefully culture preparation means area in place

8. NIR
9. Electrochemistry
10. Field Microscope

] Portable full team

11.

I would now like to continue looking @ the Embedmer blood clot difference & how looked @ VAX vs UNVAX difference (clot)

Now I want to look @ any changes whereby

1. The difference in the UNVAX person (clot)
2. The target is decreased (clot.)

What we see here are 3 peaks of interest:

1. 1188 (2) Methyl (1194)
no other competition.

2. ~1515 (2) Polyamide (1515)

3. 1691 (2) Proteins (1690)
CH Aromatic (1689)
Methyl (1688, 1693)

This is therefore potentially an important plot. We know in this case that the end result is a highly polymerized acidic protein (best info available).

The information above likely further reveals the end result of the coagulation and clotting process.

Now on the last plot we have the least difference among the three. There are no distinct peaks to be investigated.

This plot has a reference of VAX and the target is deceased. This says, unfortunately, that the difference in clot chemical structure is the ~~so~~ essentially similar between that found in a vaxxed individual and that which has been extracted from a deceased individual. That is profound in its own right.

The difference plots such as these are quite insightful and fortunately often fairly easy to accomplish w/ NIR. This would not be the case w/ MID IR.

UV VIS maps also be able to demonstrate that difference between the clots exist, but not identify what those differences are, so less valuable in providing info, but may be helpful in further confirmation of what has just been established.

Our tally list is now:

1. COB Coagulation evident - microscopy
2. Dissolved clot in NaOH
3. USB Camera photo of clots and ultrasound impact
4. High level microscopy of Ultrasound alteration of clots
5. NIR Comparison of clots vs dissolved clots
6. NIR difference plots of 3 variable Clots VAX, UNVAX, DEAD
   Not all clots are the same!
   Density & Chemistry are variable
   VAX, UNVAX, DECEASED
7. NIR Coffee filter blood difference plots
   VAX vs UNVAX
8. Ultrasound beeps on leg lesions
   is now evident.
9. NIR analysis of Ultrasound impact on Clots
   now available
10. Extended study of NIR Embalmer Clot Differences
    All combinations of VAX, UNVAX, Deceased
    have been evaluated and there are differences
    and important conclusions to be drawn.

We also have one heck of a Laundry List on Aug 16 notes.
To the list we add:
✓ 1. Retrieve additional Clot samples into the lab
✓ 2. Transfer Dr Ana shipment to the lab
3. Plan for additional RV transfer to lab.

I have started a culture bread w/ very limited materials and working only from memory.
I have used 1 tbsp sugar, 1 tsp fertilizer and a pinch of salt.
Our culture should therefore contain. SPONCH?

1. Sugar - Carbon
2. Phosphorus P_2O_5
3. Oxygen - atmosphere & water
4. Nitrogen - atmosphere
5. Sulfer - "Combined sulfur"
6. Hydrogen - Water
7. Iron (should be ferrous sulfate)

& CDB SOURCE:
3 DROPS OF HUMAN LIVE BLOOD

In addition, we have (unexpected addition / bonus!)
8. Magnesium
9. Calcium
10. Ammonia Nitrogen
11. Manganese
12. Zinc

we should have enough to get it going.

Aug 19 2023

All signs are that we have productive protein growth (solid form) at the base of the minimalist culture that has been started. There also is some film being produced in the surface layer.

There are no filament structure visible yet, however. Protein & CDB seem to be prolific, however.

I have started incubating the culture to ~85° to attempt to increase the growth rate.

I need a simple method of assessing if the culture is productive, however.
Protein reagent is more difficult
No refractometer is available.
1. pH in one idea.
2. ORP?
3. Conductivity?
4. NIR?
X 5. UV?

Let's try pH . . .

I will use UV-VIS-NIR to evaluate the absorbance of the culture along w/ microscopy.

I have made a fresh new w/ the control medium (1 tbsp sugar / 1 tsp fertalyzer, pinch salt)
First scan on the culture shows a very sharp drop in absorbance @ 230 nm.
Nitrite (275) Carbohydrate, phenol (230)
but lamp should now be warmed up for UV.
Let's use water as the control.

There is most likely because you are using VIS cuvettes! Use UV cuvettes

Ok, the UV cuvettes are only good from 225 to 1100 nm.
Remember that when setting the zero and scan up.
The control culture medium has a peak @ 273.5 nm

At this point, there is no UV-VIS dif between the control and active culture @ ~274 nm absorption peak is common to both.

The sample was taken @ the top of the liquid.

There is a definite difference by visibility

1. Control culture – Cloudy throughout sample
2. 2 day culture – Cloudy only @ bottom, rly clear solution otherwise
3. 2 hr culture – Clear solution throughout

There are several visible differences between the control culture medium and the cultured ones after 2 days:

1. In the culture, the bottom is turning brown. Indicates iron oxidation
2. The solution is losing clear vs the green tint of the original. This indicates the conversion of Fe^{+2} to Fe^{+3}.
3. There are bubbles being formed by the culture – the more likely indicates CO_2 production.
4. Brown bottom layer is more thinner than the green layer. Control
I am now looking into whether pH changes or possibly ORP.

pH of the control solution is ~ 6.84. (mechanically stirred)
Now lets try the culture.

The pH of the culture is not any different? (maybe)
UPON STIRRING MECHANICALLY, the pH is slowly dropping Dropped to 6.56
and now there is absolutely a layer, looks like bubble formation on the surface of the culture - likely the CO_2 is accumulating?

I have definitely captured the gas production of the surface layer under the microscope.

OK, the pH of the culture has dropped from the control medium. This is also good and expected. All signs are that we do have a progressing culture, at least to some level. I think that inculation was important.

Now let's make NIR Cards.
The toaster oven w/ door open and rack 1/2 extended @ 250° w/ thermostat control makes a perfect gradual drying rack.

pH may therefore be a useful indicator beyond microscopy.

Aug 19 2023 (cont)

The more that I think about it and use it, the more appealing NIR work is. The overhead and complexity of it is almost nil compared to MID IR. I see Buck no longer even make my instrument so getting it repaired is probably impossible now.

The lower range of NIR is reasonably affordable, incredibly portable w/ no overhead, and still provides usable information. Combined w/ qualitative tests and electrochemistry it can go a long way in learning about the nature of a material. The ease of sampling is tremendous and the ability to produce difference plots w/ relative ease is extremely valuable. You have an overall view of a 2 day experimental culture in a few minutes of operation.

This would be quite a production w MID IR.

However MID IR does have a massive database to make forward progress on structural info. Could you do this with NIR?

The CRC NIR book has also changed everything w.r.t. NIR

One thing that you do have in a massive Mid IR library of your own creation. That almost is merging the two methods & results. That about chemical structure...

So here we go on the 2 day culture:

* ~ 900nm is the Methyl region (908, 915) (3)
We do not have the actual peak but Methyl exists as a probable candidate. We would need to get down to 876 to reach an aromatic CH.

* 934(1) Methylene (930) Another indicator for hydrocarbons

982(1) Water (979) possible but not a major factor

? * ? 1017(1) NH Aromatic Amine (1015, 1017.5, 1018.5, 1019)

* 1214(2) Methylene (1215) a repeat here

* 1480(2) Polyamide (1480)
Secondary amine R-NH-R (CCl_4?) 1481
Amide, protein (1483)

* 1510(3) NH Amide/Protein (1510)
Polyamide (1515)

* 1576 Polyamide 1570(3)
Amide/Protein 1570
Alcohol or Water (1580) Broadband, very unlikely

I am now getting tremendous activity in the culture now. Two changes were made:

1. Mechanical stirring during the pH test
2. Incubation in an ~ 90°F environment.

There is a great deal of gas, almost foam now being produced. We may be at the point of activity similar to the electrical blood transformation. The remaining question now is if we will have filament production.

We have a strong NIR plot telling of proteins, hydrocarbons, polyamides & aromatic amines also quite likely.

(microwave?), NaOH?

Now if you were to digest the protein and get an inorganic analysis, you can have a strong idea of structural possibilities. The advantage is you can produce an mud culture as you desire w/ out out the need for blood and in a controlled environment.

The need for going to UT continues to decrease.

It is getting increasingly interesting if this "foam" (no longer a few stray gas bubbles)

We know that "foam" means protein.

The culture project, even w/ ~~minimal~~ minimal materials available, is showing great promise of being successful.

You may have a database problem developing here to look for correlations.

The ear secretion Apr 24 2023 is showing some similarity here.
The average ear secretion (Apr - May work combined) shows some ~~interesting~~ correlation w/ the culture NIR.

Aug 20 2023

Culture observations: I do have an important level of success even w/ minimal resources.

I have photographed both top and bottom layers of the culture. There are 2 to 3 main structural aspects to the culture. Actually I would say 4.

1. The CDB in coccus form
2. The CDB forming linear chains as the precession to presumed filament formation
3. A darker amorphous protein (brown)
4. Possible water soluble protein that forms a ring around a dried drop sample for a NIR card ~~pep~~ preparation. It needs to ~~lepard~~ separated from the sugar - syrup question but it strikes of similarity to the water soluble protein.

2 different focal planes

1. Reagent testing would be helpful here
2. Evaporated solution & NIR.
3. Possible UV distinction to separate the sugar question

VOID!

The pH of the 72 hr culture may actually even have gone up. It now measures @ 7.58 vs the original 6.04

The culture was extremely active during incubation last night around 100°F. It may have heated too much (I assume that was the case) and all activity had ceased. Culture progression may have been terminated.

I think that I would like to evaporate the undesired solution from the culture.

The pH has indeed DROPPED FURTHER. I shook the meter cap on and have not measured the solution. The pH has now followed the sequence.

1. 6.04 Control medium solution
2. 6.56 24 hr culture 48 hr
3. 5.62 72 hr culture 5.59

It indeed it has become acidic and thus now lies w/ all expectations. pH monitoring is therefore useful.

I have good collection, separation, and purification of the acidic solutions. Fortunately coffee filter and funnel are available. I will now evaporate them solutions

—

I am looking @ the NIR plots of the bottom and top foam layer of the 72 hour culture - DIRECT the same, as the difference plot shows a stay variation w/ regard to water removal.

—

Now I am also looking @ the difference plot. There are both, of the foam layer and the bottom layer, very similar w/ each other. But what is happening @ ~ 1462 and 1482 (max absorbance)?

Both plots, top foam layer & bottom layer, are essentially in coincidence. They agree w/ microscopic examination.

Top & Bottom Difference Layers Essentially Coincidental

955 (broad, +/- 5Δnm). Alkyl alcohol (962) (2)
Nearest adjacent candidates are at 930 & 979
So less likely. Recall this shows up as a
vax-unvax difference w/in clots.

1135 CH aromatic (1142) (2)
also no real competitors

1262 (1). NO CRC 2012 candidate - weak indication

1316 (3) NO CRC candidate - very interesting
Ionic inorganics here
This is S-H in 2nd overtone region.
Interplate $\frac{4\text{cm}}{250\text{ nm}}$ = 0.4 - 1.5cm (x = 1.1 cm)
$\frac{}{x}$
Therefore dead center in the S-H region.
Strongest & dominant peak

1466 (1) NH secondary amine (1465)
Phenol (1464)
OH alcohol (1464, 1468)
1671 CH aromatic (1671) (2)

(72hrs) Initial NIR Culture Results

Now bear in mind this is a less developed form of the culture (no filaments or water soluble protein easily evident @ this point) we nevertheless have several functional groups identified equally in both the foam (top) and the bottom layer. These are

Candidates:

~962 1. Alkyl alcohol

1135, 1671 2. CH Aromatic (2 signals)

1316 3. S-H bonds (very strong inorganic signal) w/ perfect CRC 2011 match)

1466 4. Secondary amine (lone signal) (weak signal)

The culture is also definitely acidic

Inorganic analysis could be helpful here.

Now we also use the information of Aug 19 (48hrs) to accompany this

We now have a synthetic spectrum available that average several stages:

1. 48 hr Bottom difference
2. 70 hr Top difference
3. 72 hr Bottom difference

} all contained in constituents contained synthesized NIR plots

Estimate ~900 Methyl (900-930)
930 Methylene (930)(2)
981 OH water
1295 S-H
1387 Methyl (1390) ass. w/ linear aliphatic

* 1493 LACK OF ABSORBANCE 1441 Very interesting OH From Sugar as crystalline Sucrose considering medium.

1478 Polyamide (1480)(2)
1520 Amide/Protein -NH or -NH2
1586 Ethylene Vinyl Alcohol (1583)(3) vs original 1576 Polyamide/Protein More likely!
1652 Methyl (1654, 1655)
1694 Methyl (2) 1694 Aliphatic Hydrocarbons

The plots must be regarded w/ circumspection because of the combination of and variance between the 48 & 72 cultures which must be teased down. The sugar removal in certainly of interest however

Therefore, in a composite sense, there is interest in

1. Methyl
2. Methylene
3. S-H
4. Polyamides
5. Protein

at the 40-72 hour stage of culture development w/ the particular medium.

Volatile Organic Compound measurement from the culture is of interest.

We know now, from a composite view, that we are dealing with a

* acidic, iron-sulfur based
* polymerized ~~prote~~ protein w/ a
* high hydrocarbon content

Aug 20 2023

I am recovering my laboratory notes on culture results
Two important data are
~ +/- Dec 01 2018 This is Vol 23 (p199)
My culture of great success is:
1. 1000 ml H_2O
2. 1 1/2 - 2 tablespoons Sugar
3. 1/2 tbs $FeSO_4$
* 4. 1/2 tsp potato flakes !!!
5. 1/8 tsp pink salt
6. CDB seed eg blood

7. 1/8 tsp Source of phosphate eg
sodium phosphate
ammonium phosphate

and then I made
an added entry on the date & look @ Sep 01 2020
No, I made the Note Entry about phosphate
ON SEP 01 2020. It was an added note.
There is no laboratory look for Sep 01 2020,
It was just the added note itself which
is of importance.

You are using ~200 ml H_2O so you could
reduce sugar.

Aug 21 2023

Major progress w/ the culturing process today. I have produced plasmonts (fully formed) w/in 24 hours. The change is due to my lab notes of Dec 01 2018 in Vol 23.

The answer is in the potato. We will learn over time why but certain c sources of starch is foremost in consideration. Potatoes are known to be unique in microbiology culture and the 2018 decision was certainly a good one. Here and here the step to UT seems needed, @ least for a critical situation. IR mid would be great, but it might not be repairable and simply may not be needed @ that level as before.

It is phenomenal that this sophisticated of genetic can be produced in such a short time period.

I am now getting the titration instrument working again. You need to calibrate the syringe. Run it from 60 ml to 5 ml

50 + 𝍸 𝍸 𝍸 𝍸 || + 14

$= 50 + 4(50) + 20 + 14$

$\frac{20 \text{ drops}}{10 \text{ ml}} = \frac{1 \text{ drop}}{x} \quad x = 0.0352 \text{ ml/drop}$

Calculated

So for very precise work you count 40 drops.
For less precise work you count 20 ml

However, the solenoid cable is now leaking! Very very unfortunate.

It must dry thoroughly and then we need to see if it can be sealed w/ silicone

Aug 22 2022

Lots going on here. Mixed results. Some very good news and some mixed.

Really good news is that the titrator still works! I thought maybe not even after my silicone sealy efforts, but they actually not the case.

The main issue is that you were putting too much pressure on the diaphragm in the solenoid. You do not need to drop that small. Typical of you on the pressure and now it seems to be working fine. It is a great workhorse instrument & staple for the lab.

Also you never need 6 count drops. You see that you can actually read the syringe w/ a magnifying glass to 0.25 mL and this is plenty good. There is the neighborhood of 4 drops. Assuming you have even a very small sample set of ~30 mL there on order of

$\frac{0.25\ mL}{30\ mL} = 0.8\% \equiv 1\%$ error likely

If you have a larger sample like 100 ml it is correspondingly worse. Drop sizes are changing so don't worry about continuously trying to calibrate that.

Next, we had a very big surprise on the culture. It is a very good thing that I opted to run a control test on potato flake alone. The potato was nothing but a huge distortion in the culture process. Potato cells have a fibrous network w/in them that is totally deceiving. No Potato of any kind in any culture. It is nothing but unnecessary trouble.

I am on the right track w/ my current cultures. Protein, CBB, and last run even filament production is becoming reliable. Incubation & thinks is a critical process. 85° deg max sustained temperature seems wise. If you overheat it you are likely to kill everything off so water this carefully.

At this point, however, it does not seem as though you are able to produce the water soluble protein, at least not in quantity; We will see on this. Remember our NIR Card had a viscous boundary, so we will water for that. Also our collected & condensed protein may actually have a viscous nature, it is not drying out quickly yet.

Ok, next we have reduced the culture portion in half. There is no way we needed that much sugar in 400 ml H_2O. We now are using 1/2 tbsp sugar, 1/2 tsp fertilizer, and the slightest level of pink salt

and

BLOOD - of course

do not forget the blood!

I produced higher drop volume in this latest culture round. It appears we are dealing w/ a rough min of 2 day turnover time.

Next, on titration, simplify the "priming complexity" that you were including in the process. Simply prime the tube and then read your number on the syringe. It does not need to be zeroed to anything! You know you can read to 0.25 ml - this is plenty st good.

—

Now, the bigger question arising is now that you can produce a protein by culture what do you want to do with it?

1. You would like to equate a signature to what is in the body. Then you will have an infinite supply of material to test and work with.

2. You would like to see how it compares with what is in blood and skin and clotting as a part of the process

3. You want to compare and even integrate NIR knowledge w/ mid IR knowledge and see if you can head toward structural info.

You have a entire sequence ahead of you that you would like to unfold, and it all centers on the clot formation with hopeful work on mitigation of same.

1. Identify mechanisms of clotting, eg CBB is in progress.

2. Produce any and all proteins possible by the CDB.

3. Compare this protein(s) nature with what is in the body. This includes
   1. Blood
   2. Clots
   3. Lesions
   4. Secretion
   5. affected Skin
   6. Urine possible?

4. Develop structural models of the protein, however elementary.
   Utilize NIR and existing MIDIR Library

5. Qualitative chemistry may be useful again in lieu of having MID IR and @ time is amazingly powerful.

6 Column chromatography is valuable & not very expensive. Portability is difficult however.

7. You will have VIS spectrometry. You probably want to get protein detection alive again. You have VIS now.

8. Next you need to start understanding the chemistry of the clot/protein to see how it might be disrupted. You already know that ultrasound works. Chelation merits and demerits will need to weighed out. What metals!!???

9. And so electrochemistry is important to identify the actual metals of concern. You already have this info possibly w/ the altered blood series.

You have a ton of information already available.

You need to synthesize all info in a programmer
* manner that is of highest benefit to
* "regular people". Also in a way that they understand.

This is the real end goal.

Remember the original reasons you became involved?

* 1. Is anything different w/ blood from the COVID era?

* 2. If so, what is it?

* 3. If so, is there anything that can be done about it

Trial Titration Ammo + H_2SO_4

Start @ 54.75 ml

pH = 9.45

There was a lag as was titrant capped.

Titrator stopped @ pH 7.5

The worked exceptionally well.

Switched to slow mode.

Final pH @ 6.98

Final reading 43.5 ml Δ = 11.25 ml

Look reaction between NH_4 & H_2SO_4

Flame w/ H_2O. In the future you also need to press

You can start or pause with the Cont. Button

Aug 23 2023

We now have a reliable method of producing the primary solid form of protein by the CB COB via cultivation.

It also appears to be quite pure in form. The distracting potato influence upon the culture has been removed. It has been more than sufficient to produce the protein.

The big question is going to be what do we do with it? The pursuit of the question is expected to unfold likely over many months of time but we also should not have to reinvent the wheel. We have some good information already in guide. In the past however, the solid form of protein, as we have now, was not emphasized. The water soluble form was. We, at the point, do not have the water soluble form in place.

In general, we want:

1. A reference basis of the likely chemistry of the protein. Such as
   1. Functional groups
   2. Acid or basis - we know it can be precipitated
   3. Any separations that can be made - Chromatography. Centrifuge Electric Charge?
   4. Water soluble form reappears?
   5. A means to detect its presence in both solution (regent in VIS or UV profile)
   6. Tests upon the protein for hopeful degradation w/ nutrient sources, not caustic chemicals, such as (or non toxic)
      1. Vit B, C, etc
      2. Natokinase, Fish oil, etc, Enzymes
      3. Ultrasound

   Study of mitigation of functional groups will be important here, binding of iron, Reagent test is also very useful for enzyme studies.

Regent test will be important for all studies

Now we already know we can precipitate the protein in alkaline condition:

Two questions:

1. What does precipitate look like under scope?
2. How does the precipitate compare with the oxygenated form, i.e. NIR
3. After precipitation, is there something still in solution left that did not precipitate? If so, what is it? — NIR! Even if clear and UV VIS.

These are very good questions regarding separation. Note under scope we always see two different density profiles. Are these two parts?

Ok, first finding. Precipitation of protein in alkaline solution does nothing to change to form. Still COB, dark oxide appearance, and filaments all still present.

What it does is therefore PURIFY and separate the protein. What is left in solution is an entirely different question.

It might be residual of the culture medium. At the point that is less important. What is important is that we have now a method of purification and separation of the protein.

If it was now separated and put back into acid what would we have?

—

And guess what? The fact that we now have the protein purified means that we do not need to make a difference NIR plot now. We can record it directly.

—

Yes, putting the precipitate back into acidic solution redissolves it. And this would also make it in a more pure form, especially if you were to dry it out first.

—

Well, I can't say that I expected this. The separated and drying protein in the water glass is grows a filament network. Observed under the dissecting microscope after noticing by eye. This says we want to keep some moisture in the sample. Do not let it dry out when needing the result. Save drying for later.

Keep the sample moist under the water glass.

I still have some protein reagent stored. Let's see if it still works.

969 nm Strong 1082 nm (weak)
573 nm Strong (magnitude ~ 0.02)

This time I used my prepared reagent as the control. With a very slight amount of gelatin added to 3 ml cuvette (I assume micrograms) I pick up two the two peaks above. Magnitude is weak but this is expected but two very definite peaks w/in ~ a 5 min window or less. This is very favorable. There is actually a small but noticeable peak @ 1082 nm.

After 10 min I repeat and get the following
1082 nm (weak)
936 (broad peak & strong)
573 (strong)

Our target peak is where we most likely ~573nm but the other two are certainly also.
Any and all changes in the spectrum are potentially important and helpful to determine protein existence.

Lets do this again, now w/ control reagent vs Control reagent.
Path to data is C:|MetaspecPro|Datafile
XXXX__ year, date, eg
eg 201906

The reagent may well be a year old but looks like it may still be worthy just fine.
I have kept it covered w/ a black sock.

Now for Control vs Control.
Excellent results. Our maximum magnetic spread is ~.003 with no stray peaks of any kind, less except a 0.001 peak near 969. This is $\frac{.003}{.02}$ = 15% signal strength of the detected protein. We have a definite signal and spectrum therefore.

Now let's measure the protein sample again, now setting ~ 20 min.

Ok, time is affecting magnitude but not peak location. What we have is

1. No peak @ 1082 (not particularly relevant)
2. 973 definite, now not nearly so broad peak. This agrees w/ the original spectrum.
3. We have a sharp ~~drop~~ drop off @ 597. The peak did not have time to complete. Definite absorbance that appears it would peak near 573 nm.

We will trace the down but for now we have a reliable confirmation of signal if the reading is w/in about 10 min for the 573 peak and w/in 20 min on the 973 peak (actually preferred over the 10 min sample.

Let's look @ the NIR book.

I repeated the VIS spectrum again.
I now have a very distinct and sharp peak @ 965 nm.
The smog ended up being a very useful indicator
along w/ 570 area.
Our range looks to be 965-973 nm.
I shall look at up in the NIR soon.

Also the culture set (#2 trial) is looking very
active. Any work involving the potato additive has
been discarded due to distorting results.

ORP of the protein culture would also be important
to know. Is it an oxidizer or a reducer.

I have Kindle on my phone as a search! Very helpful

962 = OH alcohols R-C-OH in CCl_4
979 = OH from water (not used)
@ 0°C

So the indicator is the alcohol released
from gelatin protein or water is somehow
released from the gelation. Gelatin seems more
likely. Still can be a useful indicator

It is very helpful to now be able to get my Kindle books on the PC as well as having them on the phone. I have a respectable library there also.
Kindle books will be very helpful.

Let's do the entire protein test again
I am using an absolute min level of protein.
My spectrum is different. Let's look into this.
I will look into this repeatedly until consistency is attained.
I will likely make new reagent tomorrow.
Something is off here.

Aug 23 2022

For the first time, we have a good solid NIR plot of the primary protein produced by the CDB from a known culture.
We can already see that there will be significant matches in the amine / amide regions.
This is from mature culture No 1 extracted onto the water glass where filaments have started growing. Things are coming together.

900 (3) Peak forming it appears
Methyl (908)
CH Aromatic (876) possible but not in view here Consider the VIS spectrometer
1195 Methyl (1195, 1194) (2)
1366 Based upon middle of sharp slope breaks
Methyl (1360) (1)
Methyl (1370) (1)
1479 Derivative detailed analysis
Polyamide (1480) (3)
Amide / Protein (1483)
Aromatic Amine (1472)
1575 Polyamide (1570) (2)
Amide / Protein (1570)
1693 Aliphatic Methyl RCH_2CHR (1693) (2)
Protein (1690) (Peptide Sheets)
Methyl (1693, 1694, 1695)

and so now we have the first solid info on a reproducible protein
We know now what the CDB is producing

Aug 24 2023

I will work on protein detection today. There is some issue already w/ gelatin solubility in H_2O

Time 1253 I see two differences using the aged reagent. First the appearance of a peak @

965 nm

Second is a shift from ~520 to 540 nm

Using a method of ratios may be the most useful.

Reagent ratio of $\frac{597}{445} : \frac{.0892}{.432} =$

Use inverse $\frac{.432}{.0892} = 4.84$ Reagent

w/ gelatin $\frac{.4182}{.1306} = 3.20$ w/ gelatin

This may be the simplest way,

You is note of Mar 19, 2022 details many differences that can be examined

1551 You can clearly see a purple shift settling in the cuvette. ~15 min

400 - 650 nm scan will reveal these differences.
Use a ratio difference involving 2 separate wavelengths seem to be a very effective detection method as noted on Mar 19 2022.
The reagent still looks to be very viable.
A new reagent batch can be recalibrated.

You need to mix the protein samples immediately before the scan.

A reagent reject has an absolute match w/ the control.
Look like we can use $\frac{450\text{ nm}}{600\text{ nm}}$ ratio effectively

Reagent is: $\frac{.424}{.0867} = 4.89$ $\Delta = .33$

Protein is: $\frac{.5194}{.2306} = 2.25$ $\Delta_{450} = .5194 - .424 = .095$

$\Delta_{600} = .2306 - .0867 = .144$

Samples:	Reagent:
1. Water Control	190 ml H_2O
2 - Reagent Control	.95 ml 50% wt dye
3. Gelatin Sample	.95 ml 10M NaOH
4. COB Trial	1.67 ml 0.5M $CuSO_4$
5. Hemp Sample	.36 gms Tartaric Acid

Aug 25 2023

Let's back up on the protein Calibration.
Calibration is expected to relate to the age of the reagent. We now have a fresh preparation.
Let's go broad spectrum again from 400 to 1100 nm.
Gelatin solidifies unless it is warm so it is not good to work with. Milk will be best.

Reagent has a very strong peak @ 510nm
But it is not shifting
There is a shift in a valley from ~~420 to 4~~ 430 to 440 nm

Many notes were made on Mon 19 2022.
I will keep those in mind.

Also notice that over 12 hr period all sample turned yellow from original orange to red so the reagent is very sensitive shift w/ the passage of time.

For immediate impact, I want to investigate the shift in the 430 - 440 region.
Tighter resolution from 1 nm to 0.1 nm

This means that we may have short term and long term indicators.

Max @ 429.3 Reagent 1
429.5 Reagent 2
Milk after ~20 min Max @ 442.0

Yes a very significant difference here. Very good.
Now work w/ hemp protein. Gelatin is poor.
Also the shape of the spectrum is different.
Much flatter in the 440nm region of the milk protein. Hemp:
~3 min: 439.8 Yes, this is working well.
~5 min: 446.4
Now go back to reagent control:
431.5 Reagent Control #2 check!
Now back to Hemp:
(Note: The pulsed cuvettes are much harder to use)
15 min Hemp 445.2 confirmed 3 times.

We now have a reliable protein detection method.
The location of the sensitivity region might change w/ the age of the reagent but it should always be able to be determined w/ a new calibration.

The long term indication (~12 hrs) also remains another option to explore.

And now we go to the CDB Protein Candidate.

1. First, even w/ a very small sample, we have very high absorbance. Our min is @ 449.3, extreme right, and therefore a major shift from 420.

Let's try to reduce sample size.

Visibly you can even see a color change from red toward orange. A strong reaction w/ minimal sample.

Our min is again @ 449 nm, significant shift to the right.

Lets broaden the scan from 420 to 470 nm.

The widened scan was very wise to do.

The valley can be identified much more readily.

With the CDB sample, the valley is @ 455.6 nm

A very strong and definite shift to the right.

Our reagent minimum, once again repeated is @ 430.5 nm.

We have now confirmed that I have isolated a very concentrated protein from the latest generation of CDB culture. This is highly important as it will provide a basis for study as to how it causes clotting and its toxicity effects.

The culture was given SPONCH sulfur, phosphorus, oxygen, nitrogen, carbon, hydrogen and a few drops of blood to form. This isolation now serves as a valuable reference.

This spectrum has been saved on the UV-VIS computer.

—

This demonstrates the value of a color sensitive reagent if you can come up with one. Significant confirmation of the NIR work has taken place here.

Now the question is do you amide also and if so how do you know that?

Culture are up and running steadily.
Blood starter no longer required. Culture
protein/CDB is itself the starter now.

Dutch has now:

1. Been identified & photographed visually under the scope.
2. NIR established protein/and n/amide
3. VIS spectrometry verifies protein existence.

So now we have the protein.

1. Purification w/ pH
2. Solubility w/ pH
3. What causes it to polymerize?
4. Enzyme has an effect?
5. Ultrasound known to have an effect
6. Any supplement, anything nutritionally based to have an effect influence?
7. Inorganic analysis
8. Chromatography separations
9. Electromagnetics? Electrochemistry on purified protein?
10. NIR comparison - skin, secretions, blood, blood electrochemistry, lesion
11.

11. Understand the Chemistry of amide/amine/polymerization to see how it might be interfered with.

Very early run on the cell/tube solution (dilute) is showing a slight shift in the reagent from ~435 to their 439 nm. This is enough to suggest we may have protein in solution also. More to come as we evaporate and concentrate the solution.

All signs are that the amount of shift is proportional to the concentration of the protein.

435.0 ~~436.0~~ to 438.9 Resolution of Scan = 0.1 nm

We do seem to be ~~seeing~~ seeing a shift. definite shift.

Remember this protein is water soluble - the solution was not.

Aug 25 2023

I have made the first NIR scan on the concentrated solution.

We definitely have a protein w/ pi, and it is water soluble.

We also had additional confirmation of the VIS shift from 435 to 439 nm.

Now what we quite amazing is that the protein spectrum of solution is identical to that from the solid form, with one important section:

The absorbance at the "appearance peak" group in the 900 nm region is completely absent. These, for the time being, are anticipated to involve methyl groups however uncertainty remains because peak formation is on the edge of the range.

However, we do see additional broad weak peaks
~ 1002 nm 1000 OH in phenol CCl (no CCl used)
1003 primary aromatic amine in CCl (no CCl used)
1004 OH from secondary alcohol -CH-OH
1006 OH from tertiary alcohol -C-OH

The change is likely to be quite important.
We do not have CCl_4 as a solvent so the
might be less likely.
The aromatic amine is in the same boat w/ CCl_4.

However the OH groups makes a great deal of sense
as to explaining solubility.
It is saying the solid and the soluble protein
share the same characteristics but one is soluble
and the other not. Hydrocarbon may be entering
the picture on the solid form — we'll try to
get to a flame test @ some point.

The differences are occurring < 1050nm, otherwise
they have the same profile

We definitely have both forms of created protein,
soluble and insoluble (except by pH)
form back.

* How does the soluble form behave w.r.t pH?
Can it solidify or precipitate also?
* Insect venom chemistry is an issue and question
VIS spectrometer might pick up < 900 region
* w/ the solid form if dissolved in NaOH
This will distinguish hydrocarbon & aromatic forms.