caffein, theophyllin

ascanyeche Ophiosta multiannulatum

0.05% to 0.15% caffein

Niels Fries, Birgit Kohlman

Inst. of Phys. Botany

Univ. of Uppsala

Fungal Mutations

induced with Methylxanthines

p 573 Nature Vol 162 1948

N. H. Haworth

p. 39

Adv. Ill. de Fenetres. Vol 3. —

Brannenburg

June 7 Th

June 6th [Wd]

June 15th [Fr]

Cold Spring Harbor

Quote: Bertani Demerec & Flint
Carnegie Inst of Wash Yearbook
~~[illegible]~~ No 48
p. 138 1949

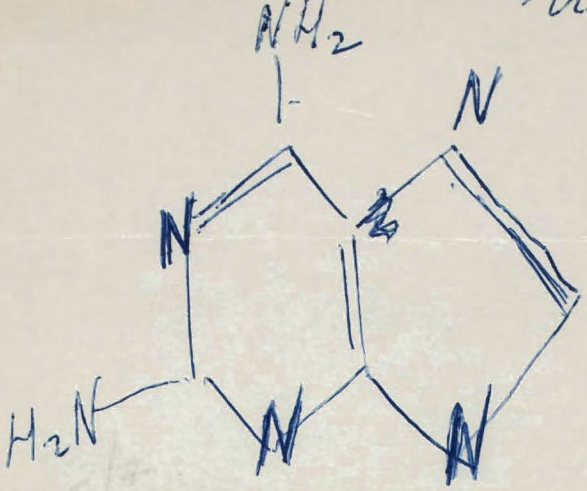
THE UNIVERSITY OF MINNESOTA,
Department of Agriculture,
Division of Plant Pathology & Botany,
University Farm,
SAINT PAUL, MINN.

Professor Leo Szilard
Institute of Radiobiology and Biophysics
The University of Chicago
Chicago 37, Illinois

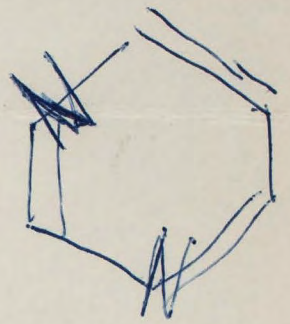
From: The Biochemistry of nucleic acids.

J. N. Davidson

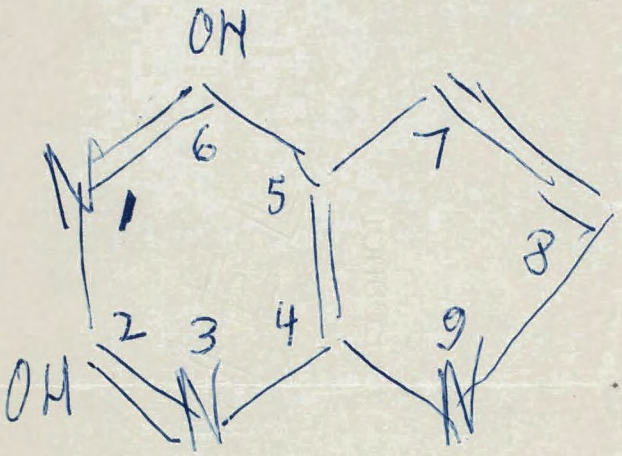
Methuen & Co Ltd 1950



2-6 Diamino purine



Pyrimidine



Uracil 2-6 hydroxypyrimidine

Thymine 5 methyl uracil

Xanthine / 2=6 dihydroxy purine

Adenine = 6 amino purine

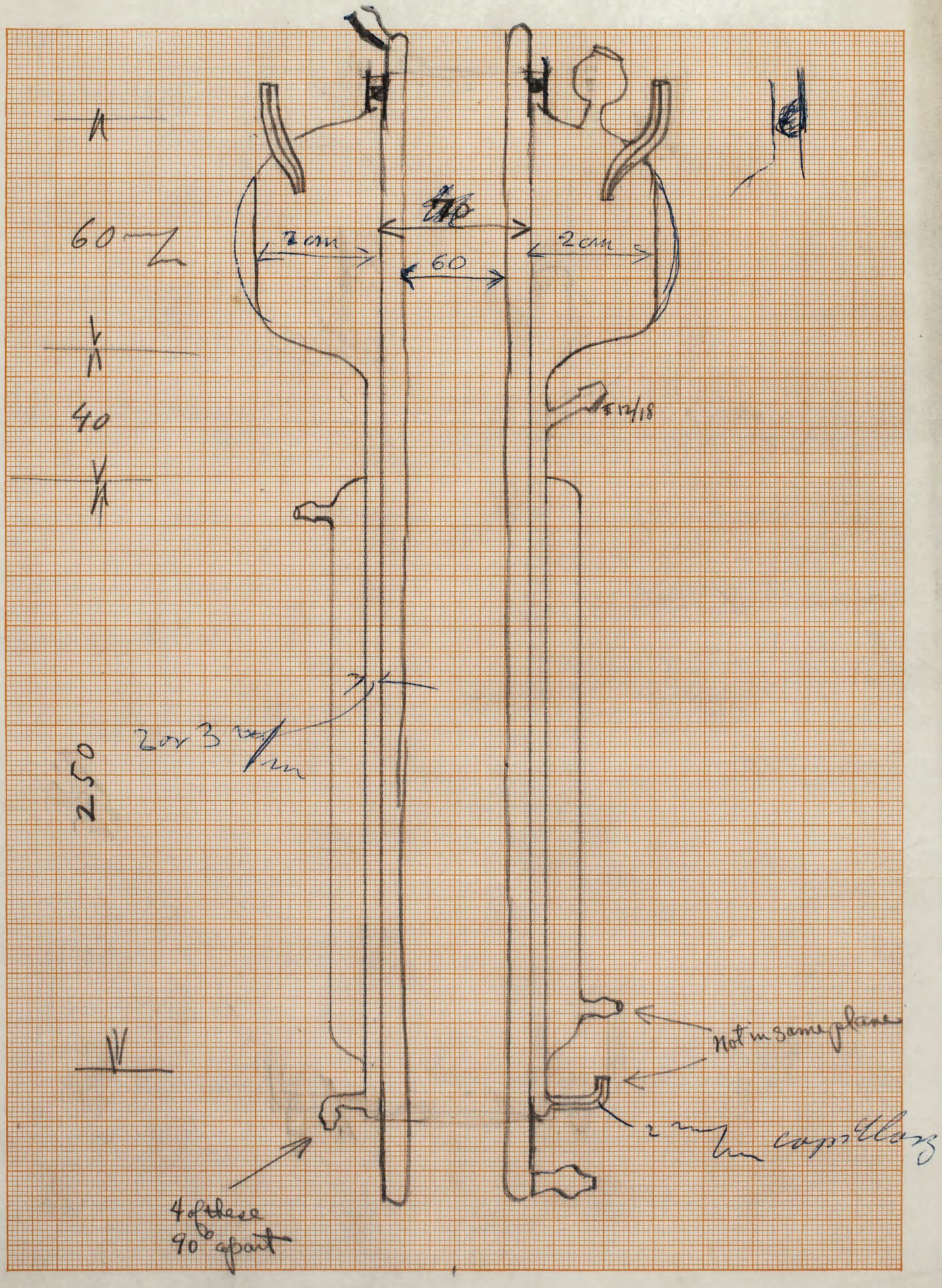
Guanine = 2 amino-6 hydroxy purine

Mr. Allen

29
18
47/18

Exp No	Organism	Growth factor		Bact. conc	τ	Stimulator	Ukt	Untaken per bact. per node nimm × 10^8
225	B/1t/f	T	500γ/l tryp.	2.29×10^8	4.7	Caffeine 150 mg/l	18.9	
157	B/1t	T	"	2.24×10^8	5.5	Theophylline	10.8	
199	B/1t/f	T	"	2.47×10^8	6.2	Paraxanthine	8.3	Fig 8
226	B/1t/f	T	"	2.28×10^8	4.1	theobrom.	7.4	
184	B/1t/f	T	"	$2.5\ 10^8$	4.8	Paraguanine	3.4	8
124	B/1t/f	T	"	$2.2\ 10^8$	5.3	adenine 164 mg/l	2.82	
114	B/1t/f	T	"	$2.2\ 10^8$	6	adenine 500 mg/l ~~adenine~~	6.10	Fig 9 (9)
~~A~~	~~B/1t/f~~		~~1000γ/l trypt.~~	~~5.4×10^8~~	~~7~~			Fig 7 6
157	B/1t	T	500γ/l tryp	2.24	5.5	theophylline 150 mg/l	10.8x	
201	B	N	7.85 mg/l N	2.2	5.5	"	4.13x	
189	B	L	150 mg/l lactic acid	2.5	3.5	"	4x	
208	B	P	3 mg/l P	4.3	6.5	"	3.4x	
A	B/1t/f	T	1000γ/l tryptophane	5.4	6	none	1.21	Fig 1
154	B/1t	N	7.85 mg/l N	4	4.6	"	0.84	
155	B	L	150 mg/l lactic acid	2.3	3.7	"	0.54	
214	B	P	3 mg/l P	4.55	5.8	"	0.69	
232	D84/1t	T	500γ/l Trypt 9200γ/l [illegible]	3.0	2.4	none	1.76	Fig 2
231	D84/1t	A	2000γ/l Trypt 2300γ/l [illegible]	2.0	2.6	"	1.56	

Exp No.	~~Mutant~~ Strain	Controlling growth factor	Growth factors	n	τ	Mutagen	Y_E	Fig 8
157	B/1t	Tryptophan	~~1 gm/l~~ ~~NH_4Cl~~ 500 mg/l tryptophane	2.24	5.5	~~Transplitides~~	10.8	7
166	B/1t	Nitrogen	30 mg/l NH_4Cl 1000 mg/l trypt	3.3	7.2	11	3.5	
229	B	Phosphorus	3 mg/l P	3.7	2.6	none	0.73	Fig 3
228	B	11	11	6.9	8.3	none	~~0.56~~	



$$Q \frac{dn}{dt} = \alpha(c) n^Q - \frac{1}{\tau} n Q$$

$$0 = \alpha c_0 - \frac{1}{\tau}$$

$$c_0 = \frac{1}{\alpha \tau}$$

$$a = c + nQ \qquad a - c = nQ$$

$$\frac{dc}{dt} + \frac{dn}{dp} Q = 0$$

$$-\frac{dc}{dt} = \alpha c (a-c) - \frac{1}{\tau}(a-c)$$

$$-\frac{dc}{dt} = \alpha a c + \frac{1}{\tau} c - \alpha c^2 - \frac{a}{\tau}$$

$$-\frac{1}{\alpha}\frac{dc}{dt} \approx \left(\alpha a + \frac{1}{\alpha\tau}\right) c - \alpha c^2 - \frac{a}{\alpha\tau}$$

$$-\frac{1}{\alpha}\frac{dc}{dt} \approx (a + c_0) c - a c_0$$

$$-\frac{dc}{dt} = \alpha (a + c_0) c - \alpha a c_0$$

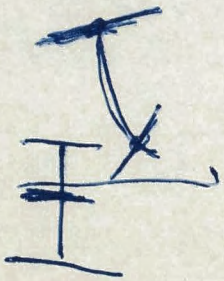
$$-\frac{dc}{dt} = \alpha(a+c_0)c - \alpha a c_0$$

$$c_0 + \text{Const}\, e^{-\beta t} = c$$

$$+\beta e^{-\beta t} = \alpha(a+c_0)c + \alpha(a-c_0)e^{-\beta t} - \alpha a c_0$$

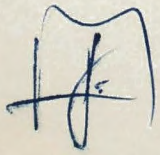
$$\text{Const}\ \alpha(a+c_0) = \beta$$

$$-\alpha(a-c_0)t$$



$$c$$

$$\frac{1}{e} = \frac{1}{\alpha(a+c_0)}$$



$c_0 + X = c$

$$\frac{1}{\alpha}\frac{dx}{dt} = (a\beta + \frac{1}{\alpha\tau})c$$

$$= (a + c_0)(c_0 + X) - (c_0 + X)^2 - a c_0$$

$$(a + c_0)c_0 + (a + c_0)X - c_0^2 + 2c_0X - X^2 - a c_0$$

$$= a c_0 + c_0^2 - c_0^2 - a c_0 +$$

$$+ (a + c_0)X + 2c_0X - X^2$$

$$\frac{1}{\alpha}\frac{dx}{dt} = (a + 3c_0)X$$

$$-\frac{dx}{dt} = \alpha(a + 3c_0)X$$

$$\frac{1}{\alpha a} e^{-(\alpha a + 3c_0)t}$$

Percy L. Julian || Steroids
Glidden Co Cleveland
vegetable raw bo cortisone

Syntex S.A. Mexico City
Carl Djerassi Ass. Dir of Res.
organic chemist

Emeric Somlo
Frederico Lehmann 1932
Laboratorios Hormona S.A.
Chemical Specialties Co of N.Y.
[U.S. Sales Agency]
American Syntex Co of Puerto Rico

Dr. Abraham White

progesterone

Russel E. Marker } Penn State College
Park Davis Co } now with Hormosynth
Mexico City

George Rosenkranz
L.V. Sollins U.S. Sales | Lirios Lagos president

Cortisone Merck - Gladstone - Scheiding

Syntex from Cabeza de negro Campus

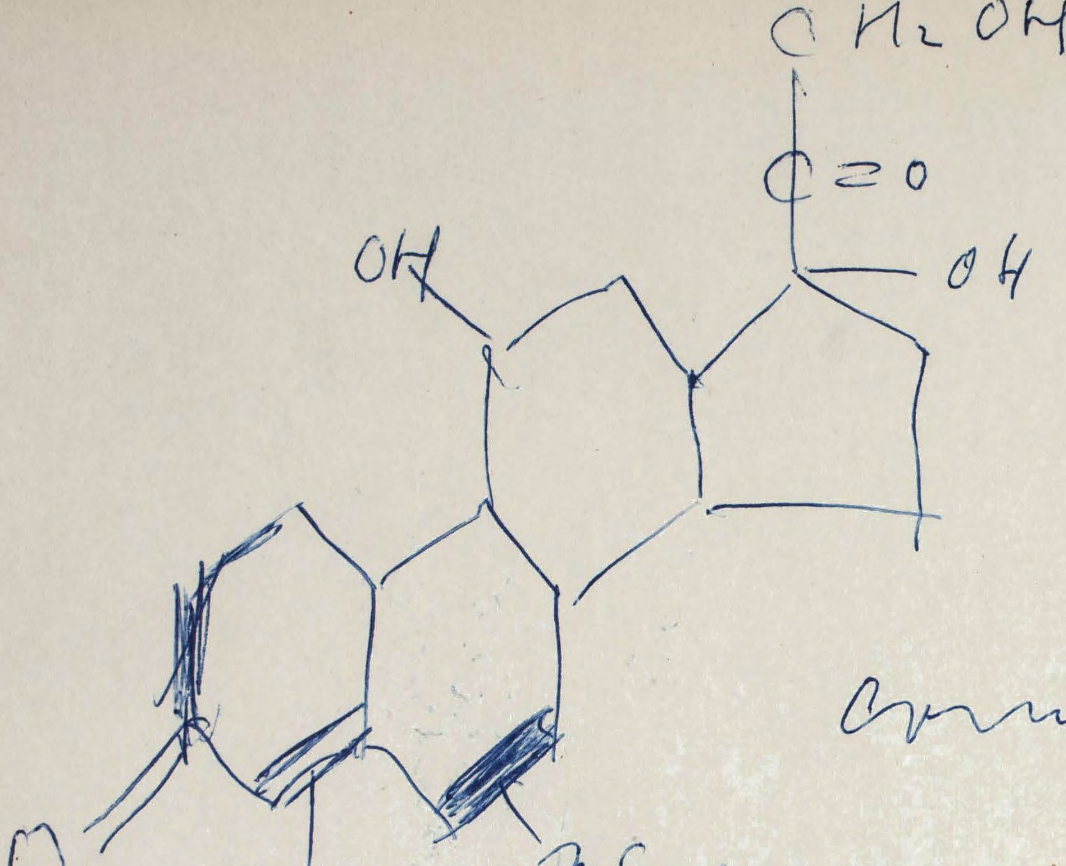
Merck [and Gladstone?] also Syntex
could use Jeons orgo-
sterol, — !?!

Upjohn is ~~making~~ (Cortisone
working on)

also Searle & Co Chicago
(S to F)

Upjohn (Co also pies Schott

Oscar M. Hechter
and Gregory Pincus
The Worcester Foundation
for Experimental Biology Inc

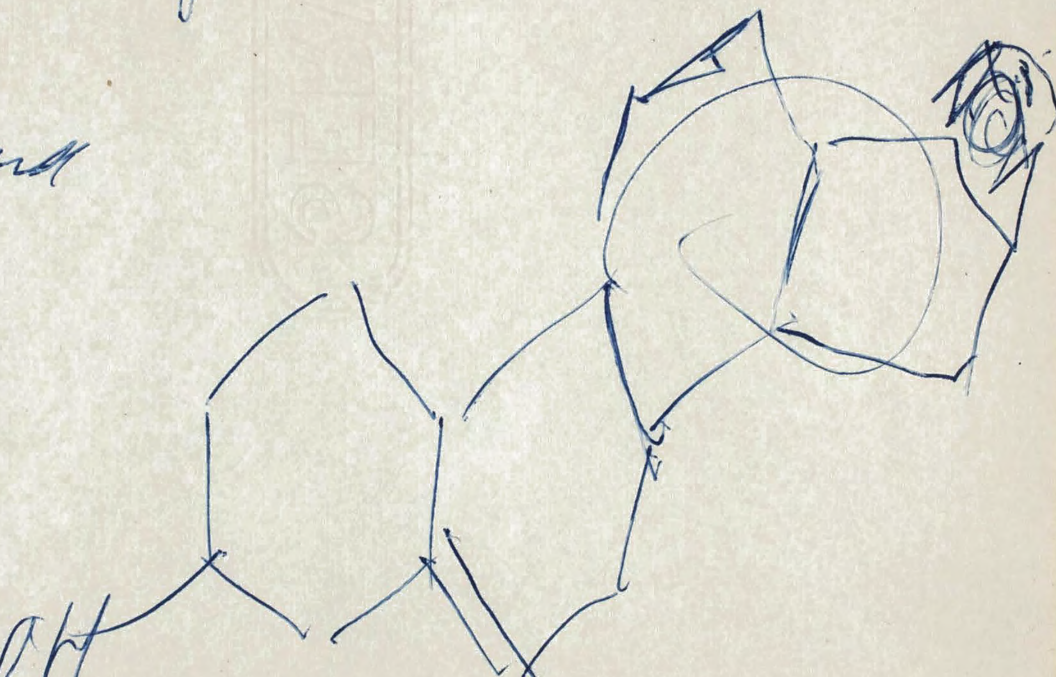


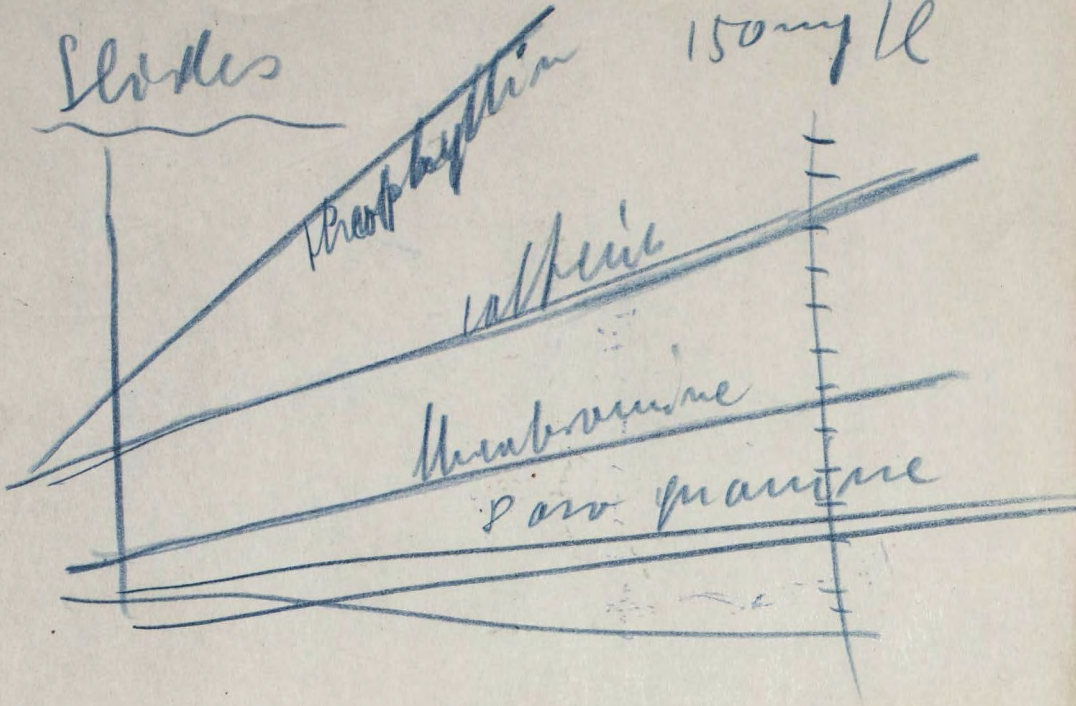
single bond

double bond

Diosgenin ;
(from cabeza de negro)

Compound F




150 mg/l