

WG 3.

W1421-1429.

1421 Cys
 1423 IV
 1425 Tyr
 1427 Tr or Tyr
 1429 HIST

1448 IX
 → Leu (only!) W1450. → HIST W1451

1449 Leu

1448 Cys IV → 1473-75 Mal-

WG 4 1430-1434

1430 Leuc
 1431 Prot
 1441 Prot

1446 TRV 1447 PRO

Tyr 1454 Meth 1455 1456 Arg 1457 Cys
 Leu 1458 IV 1459

1446 Leu Tyr → 1460-1466 Lac- (incl. Leu-) ¹⁴⁶⁴ → Mal-Lac-Leu Tyr (1482-84)

1454 Prot Tyr → 1476-81 Lac-

↓
 SR (SRP factor)
W1611

Reacts as F+ but
 does not transmit
 unless infected.

WG-7

W1396.

1495 Cys → 1978 Cyst. Pool, 1987 Cyst. typ.
1496 Sol
1497 IV
1498 ben

WG 9

CA62 Lac -

1504 Pro or Tyr!

1505 Tyr

1506 Pro

1507 Hist or Pol.

WG 10

W1526A

math
hist

W1877 math

1878 hist

W2022 hid

W2023 W.

W2024 lysine → W2025 lysine + ?

Induction and isolation of biochemical mutants

Mutants were isolated from stock cultures of ¹⁵²⁴⁹ W1715 (WG 10) and W1715 (WG 15) of E. coli ~~strain K-12~~. Cultures were grown in complete medium without either aeration or subsequent irradiation. Washed cells were incubated in minimal medium, to which various amounts of penicillin (100, 150 and 300 units per ml respectively) were added.

By using the replicate ~~plating~~ plating technique, mutants were isolated in 4 experiments.

<u>Experiment</u>	<u>Stock</u>	<u>Biochemical mutants</u>
1.	WG 10	A - histidineless B - isoleucine-valineless C - methionineless. D - lysineless
2.	WG 10	E - isoleucine-valineless F - lysineless G - histidineless H - lysineless
3.	WG 15	- 1 - 32 all prolineless
4.	WG 10 lysineless (mutant F)	FLX - diauxotroph Lysineless and unknown factor

Subsequent testing indicated that the following were stable mutants. Others were discarded as repeated isolates of the same mutation or for other reasons.

1	A ₂ - histidineless ^{W1715}	5	F - lysineless
2	B ₂ - isoleucine-valineless	6	H - lysineless
3	D ₂ - lysineless	8	24 - prolineless (WG 15)
4	E - isoleucine-valineless	7	FLX - diauxotroph ^{W1715} lysineless + unknown factor.

WG Mutants and Crosses

see #76 book

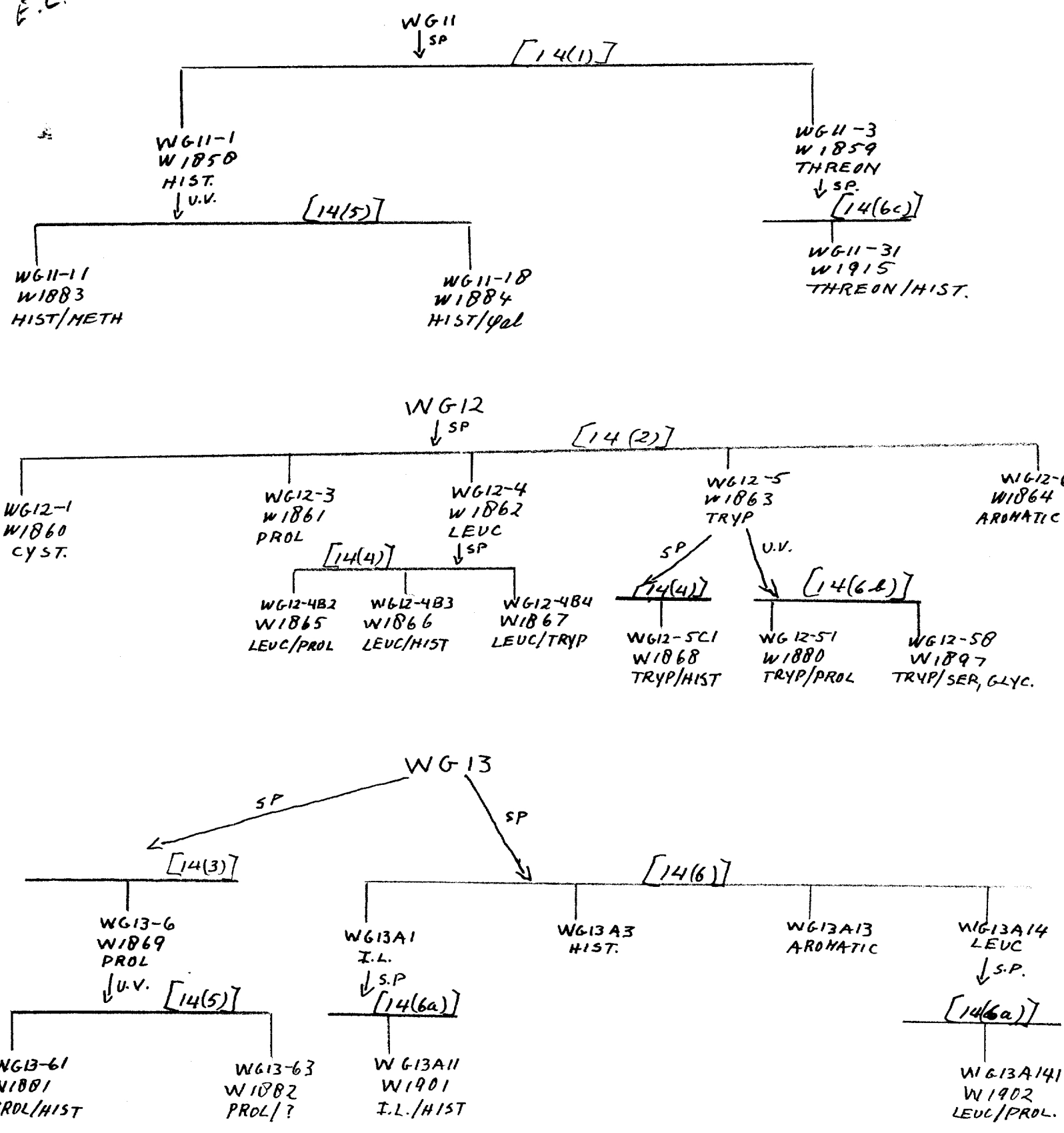
A description of all WG mutants made will be found on a separate sheet. The first number given the mutant is the one under which the mutant can be found in my notebook; the second number given is the W number. The chart indicates which mutants were obtained in the same experiment and the number in parent~~th~~es indicates the experiment number in my notebook. All mutants were selected by the penicillin method. Sp indicates that the mutants selected had arisen spontaneously; U.V. indicates that mutants were induced by means of ultraviolet light. Four separate attempts to put a marker other than histidineless or prolineless on W1895 ? failed.

The following crosses were made between WG strains:

Strain	WGs Crossed	Mutants used	Colonies/Plate
WG11	11 x 13	see under WG13	
WG12	12 x 12	1865 x 1868	ca 10
	12 x K12	1868 x 58-161	ca 50
		1868 x 1177	ca 30
		1865 x 1448	0, 2
	12 x 3	1868 x 1448	ca 5
		1868 x 1445	1, 2
12 x 4			
	12 x 13	see under WG13	
WG13	13 x 13	1901 x 1902	1 to 6
	13 x 12	1902 x 1868	ca 200
	13 x K12	1902 x 311	6 to 10
	13 x 11	1902 x 1883	2, 0, 0
		1902 x 1915	1, 0, 0
		1902 x 1884	2, 0, 3
		1882 x 1883	1, 0, 0
		1882 x 1915	0, 0, 0
1882 x 1884	0, 0, 0		

LF E. Cahn

E.L.



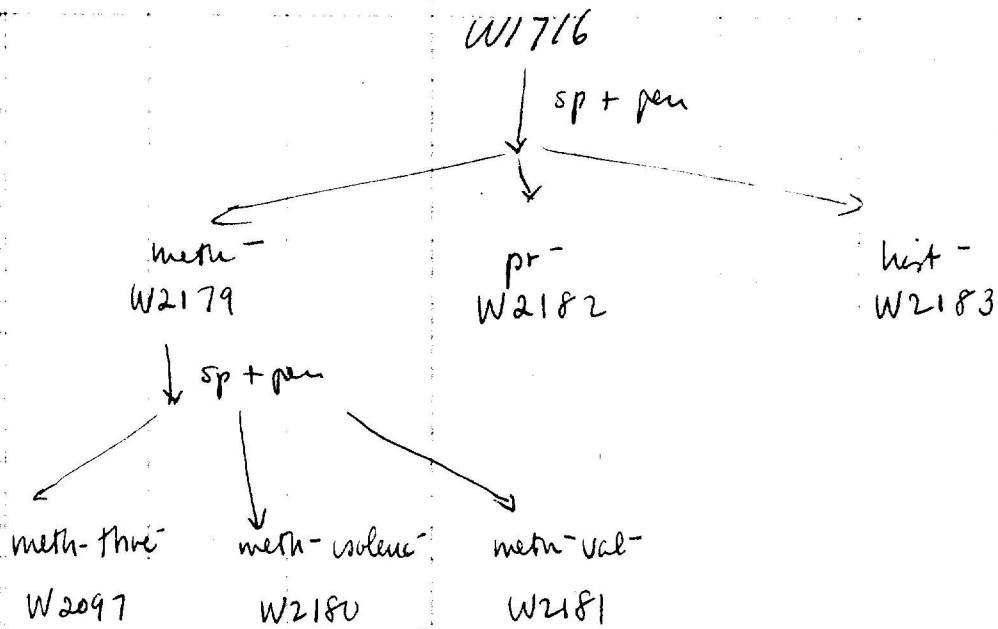
wg15 (w1715)



w2026 proline

Wg 16

Moss
p. 160 and less



Wg 24

PDSkaan 3-12-1

↓ spont. t pen.

W2264 (trypto⁻)

→<sup>spont
t pen.</sup>

W2267 (trypto⁻: hist⁻)

W2265 (arg⁻)

→

W2268 (arg⁻: 1U⁻)

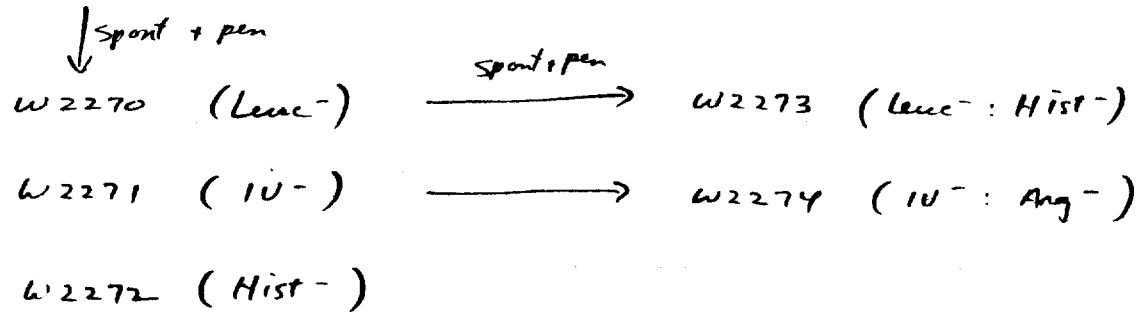
W2266 (hist⁻)

→

W2269 (hist⁻: Leuc⁻)

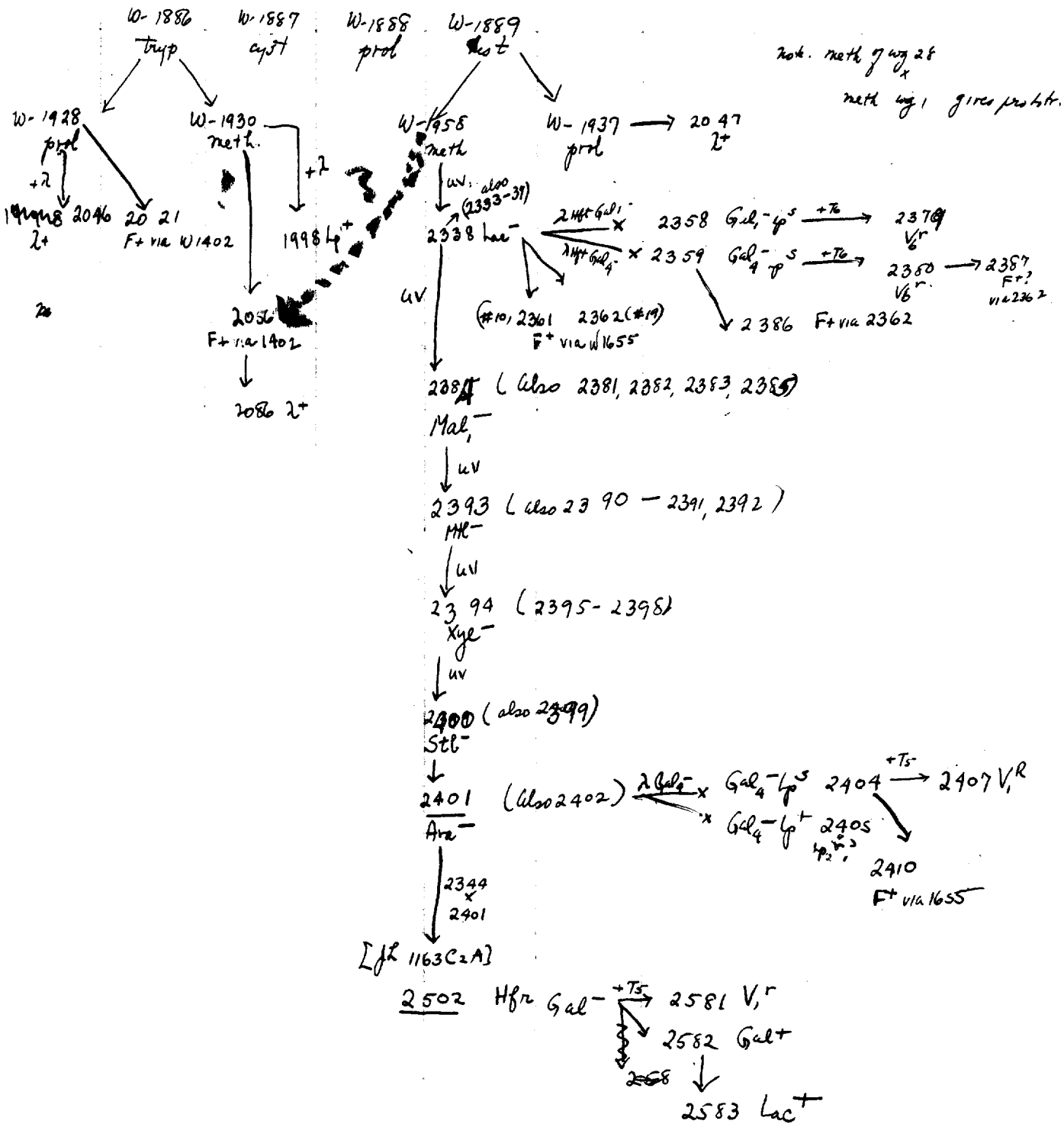
Wg 26

PD Skoan 3-12-1

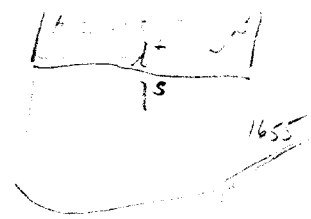


E.M. Lelander

W19 28-A
 = W1258-A (2⁵) M⁰ S^r
 F⁻



7/5/66 EMI



Inventory of SB2401 line 28A ♀

2401 ara

↑

2400 stl⁻

↑

2394 xyl⁻

↑

2393 mtl⁻

↑

2384 mal⁻

↑

2338 lac⁻ F⁻S^RL^SH⁻M⁻

↑

1958 ? met⁻

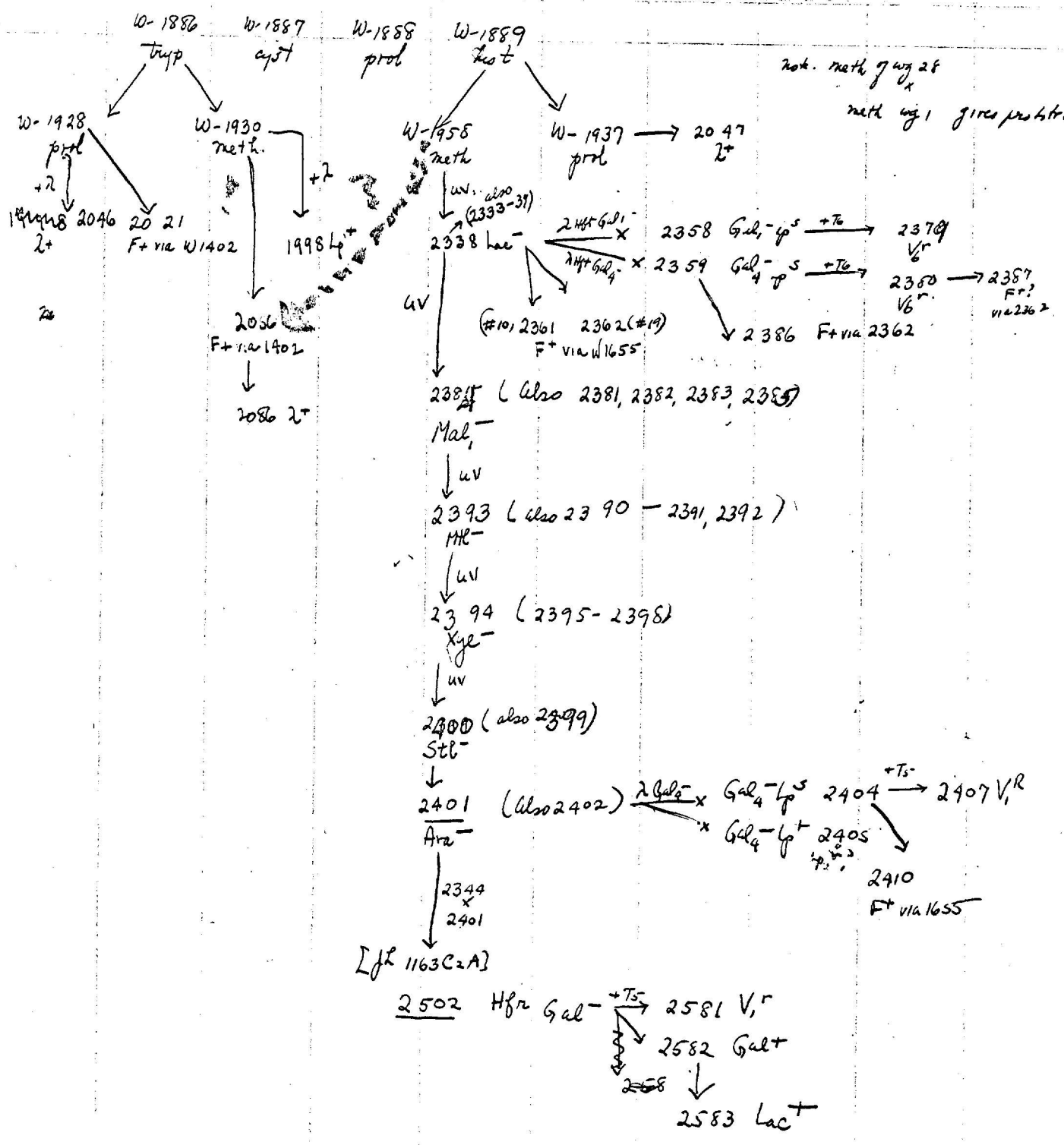
↑

1589 his⁻

↑

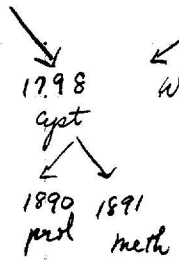
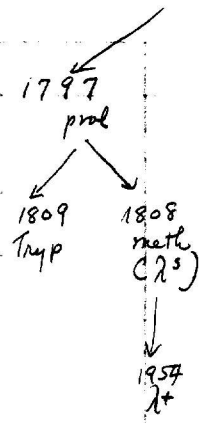
1258 NTCC123 L^SF⁻

WIG 28-A
 = W1256-A (λ^s)M_p^sS^r
 F⁻

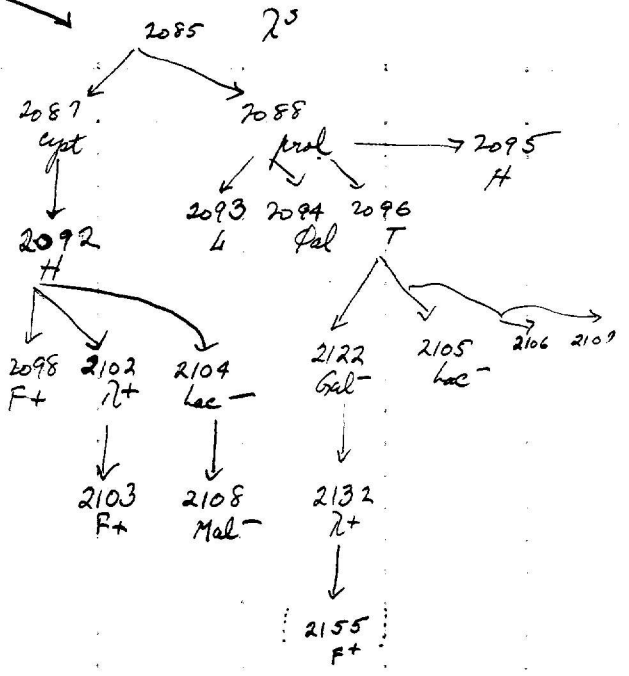
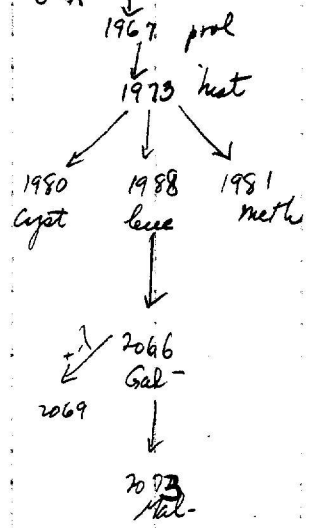


WG 31
(W-1376)

EM Laserberg



+1177 SRP
31A
W-1415 SRP



Gooding

Wg 33 (W1904)

W1974 prot- → W1984 prot- ~~hist~~ _{cyst-} → W2017 met-
W1991 IV- → IV trypt (W2006) and IV hist (W2007) → W2014 {
W1992 φal- }
W1993 trypt- }
W1994 hist- }
W1996 aromatic (requires φal + trypt + tyrosine) }

gosting

Crosses with Wg 33 and Wg 34

Wg 33

W2006 (Wg 33) x W1984 (Wg 33) → 0
2006 x W1990 (Wg 34) → 0
2006 x W1177 → 6 very small
2006 x W1817 → 25

Wg 34

W1990 (Wg 34) x W1964 (Wg 34) → 0
1990 x W2006 (Wg 33) → 21 very small
1990 x W1865 (Wg 12) → 0
1990 x W1902 (Wg 13) → 1
1990 x W1177 → 1 small
1990 x W1817 → ca 350

Gooding

Wg 34 (W1905)

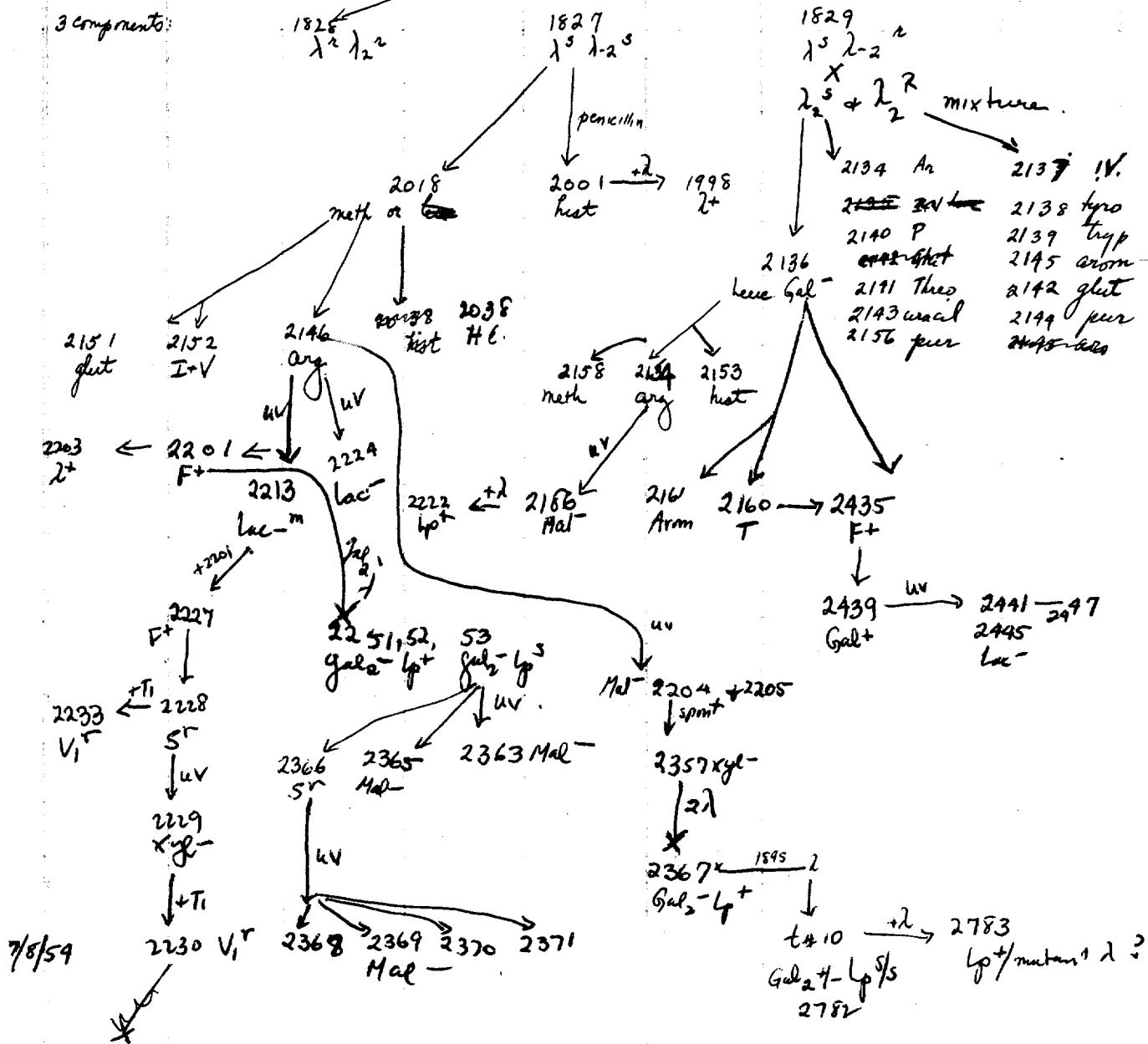
W1933 hist- → W1990 hist-cypt-
W1952 lac- → W1964 prot-lac- → W2009 prot lac-SR
W1961 prot-

WG 47

E.M. Lederberg

W-1799 F-2^o Mp³

3 components:



Wg 50 (W1939)

W2008 mal +

WG 51 = W2049

Rec'd from Weigel as C

⇒ NTEC #122 Related to 28+28A?

+2 →

2176

4+

2376

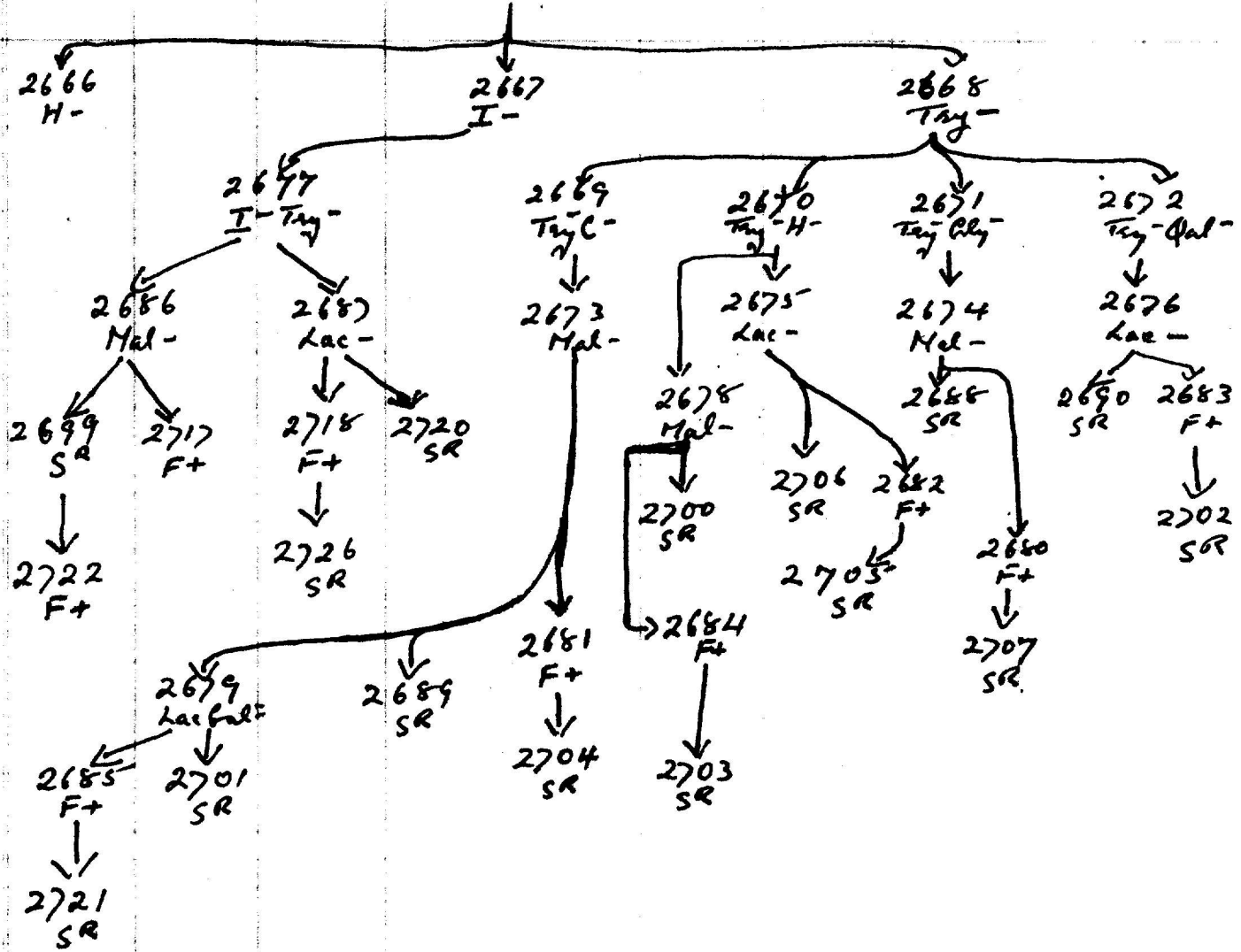
Bentane C(P₂) Mal-

2

1954-5

W 2655 = W 2665 (Bernstein)

F- Suc- S^S V₁-? R λ, T₂ 210.



Handwritten signature

LP 5) = L2691 F-55 V1-7 no 7, 72 no.

2719
F+

Erwinia stearnsii x W1177.

Jan 10 ff. 1951.

Repeat *E. amylovora* + *E. carotovora* x W1177. (EMS Lac sm.)
30 + 37°.

- 1 car.
- 2 amy.
- 3 "
- 4 car.
- 5 amy.
- 6 "

All ~~carotovora~~ ^{amylovora} strains gave 20-30 colonies, lact+, in EMS lac sm.
 At 30°, heavy background; at 37° light background but the colonies were pronounced lact+
 carotovora gave rather dense background but no colonies.

Repeat amylovora crosses: controls. Pick colonies from "2" and streak on EMS lac, 37°.

New controls and crosses (grown together briefly) gave no colonies at 37.

Or 2 x above eventually gave a gummy lact growing at 37.

Repeat crosses under initial conditions (long growth together).

2/17 (5 days on EMS; 6 in both)

776. Car	C1.	no sm:	1 Lac ⁺ colony seen.	1	N.G.
	C2	" "	2 "	3-4	lac-
	X1	sm	1 very tiny.		} glucose + but no growth m D (0) no phototrophs grew out!
	X2	" "	0		
	W1-23 plates		0		
	W2		1 lact?	2	

No lact
 Repeat and test for phototrophy.

1/19/51.

H.

edium

	Juca	STP	Cello.	Mal	Sm.
128	+	-	++	+	S
129	-	-	-	±	↓
130	-	-	-	±	
131	±	-	±	+	
132	-	-	-	+	
133	-	-	-	+	
134	+	±	-	+	
135	+ ^{wmc}	±	-	+	
136	+	±	-	+	
137	+	-	-	+	
138	+	±	-	+	
139	-	-	-	+	
140	-	-	-	+	

v. unicolor
lac - ±
"
"

x 1177 in ERT lactes.

0
0
Ca 400 sm. cels.
0
1 lact
0
0
1 lact
0
1 lact
0
1 lact
0

W1587

