

DATE:

REF:

	1	2	3	4	5	6	7	8	9	10
	Sum: (by progeny, not number of recombinants).									
	Lac:	37+6+7+5+7+8	= 70	= 75	-(19,60,26,23,88).		70	93		
	Vl :	6+7+5+7+4	=				29	39		
	Ara :	6+7+2+5+5	=				25	33		
	Mal:						6	8		
10	Xyl, S						5,5	7		
	Mtl						2	3		
	Gal, Fla						1,1	1		

Perhaps a better sequence than Lac Ara Vl Xyl Mtl Mal S would be one to fit the above, Lac Vl Ara Mal S Xyl Mtl. Where this is done, substitute 1/1

This will make the descending order of individual types as follows:

100	100	41	1000	0010
			1010	1010
111	111	18	0001	0100
			0011	1100
011	011	8	0010	1000
			0011	1100
30	101	110	8	
	010	001	8	
	001	010	5	

No particular advantage here.

40

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DATE:

REF:

#	Exp/Slide	2	3	Markers segregating	6	Lac(Ara) VI Analysis	Mal...	9	Pedigree
1	53D2			Lac		-s			
2	D4			Lac		-s			
3	58B3	130-D3		Lac VI (+r) Ara		+			
4	F2			Lac		-s			
5	F5			Lac VI (+r)					
6	H5	H5		Lac VI Ara					
7	56B2	131-		Lac VI Ara Xyl					
8	B5			Lac (Ara) Xyl Mal					
9	C1			Lac VI					
10	C3			Lac VI		+r -r -s			
11	D1			Lac VI		SEE -r +s			
12	F3			Lac					
13	G5	G5		Lac VI Ara					
14	58B1			Lac					
15	H2			Lac					
16	59A3			Lac					
17	59C2, D5			Lac					
18	C3			Lac VI Ara		+r, -r			clump
19	60A2	A2		Lac Ara					
20	61C4			Lac					
21	61G1	137 H5		Lac Ara VI Mal Xyl		See detail.			
22	62H5			Lac Ara					
23	63C2			Gal Hfr		x			
24	D6			Lac					
25	G5			Lac VI					
26	63B6	B6		Ara					vl.
27	64B3			Lac VI					
28	64C6			Lac					
29	64D3			Lac Ara Mal Mtl S		X			
30	65A3, B6, B5 B6			Lac Ara VI		-s/++r			X
31	65D2			Lac Mal S		++/-			
32	65E3			Lac					
33	H3			Lac					
34	66C1	153- C1		Lac Ara VI					
35	66G3-4	C3 C4		Lac Ara VI		+ r/- r			
36	83A2	173-A2 [3-6]		Lac Ara VI					
37	83E6			Lac					

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These have all been analyzed scored for V_1^F and for $Lac+V_1^F$ (presumably there are no cases of $Lac+V_1^S/Lac-V_1^F$ except 56D1. Lac means that the only detected recombinants were $Lac+Ara-V_1^S$. $LacVI$ means that $Lac+V_1^F$ was detected; it does not rule out the additional presence of $Lac+V_1^S$ or $Lac-V_1^F$, though these are sometimes indicated. Detailed analysis is made only for $Lac.Ara$ cases. For Mal... cases, see detail sheet. There have been no $Lac+S^S/Lac-S^F$ lacking +r.

50

Fmol 7/7/57

comparisons
000 indicated

DATE:

REF:

#	Exp/Slide	2	3	4	5	6	7	8	9	10
#	Exp/Slide	zygotes		Markers segregating		Lac(Ara) V1 Analysis				Pedigr
1	53D2			Lac		-s		100		
2	D4			Lac		-s		100		
3	59A3	130-D3		Lac V1 [+r] Ara		+		111		
4	F2			Lac		-s		100		
5	F5			Lac V1 [+r]				101		
6	H5	H5		Lac V1 Ara				111 011		
7	56B2	131-		Lac V1 Ara Xyl					111 1000 0	
8	B5			Lac (Ara) Xyl Mal				100/000 · 1010/0000 ; 010		
9	C1			Lac V1				101		
10	C3			Lac V1		+r -r -s		101 001		
11	D1			Lac V1		+++ -r +-s		100 001		
12	F3			Lac				100		
13	G5	G5		Lac V1 Ara				111 011		
14	58B1			Lac				100		
15	H2			Lac				100		
16	59A3			Lac				100		
17	59C2, D5			Lac				100		
18	C53			Lac V1		+r, -r		100		clump
19	60A2	A2		Lac Ara	V1	Note +r -r		010		
20	61C4			Lac				100		
21	61G1			Lac Ara V1 Mal Xyl		See detail.		111 · 0001/1111		
22	62H5	137 H5		Lac Ara	V1			110		
23	63C2			Gal Hfr		x		000 0000 1		
24	D6			Lac				100		
25	G5			Lac V1				101		
26	63B6	B6		Lac Ara	V1			011		
27	64B3			Lac V1				101		
28	64C6			Lac				100		
29	64D3			Lac Ara Mal Mtl S		X		000/111 · 0000/1111		
30	65A3, B6, B5 B6			Lac Ara V1		++s/++r		111 100		X
31	65D2			Lac Mal S		++/+		100/000 · 0000/0011		
32	65E3			Lac				100		
33	H3			Lac				100		
34	66C1	153- C1		Lac Ara V1				111		
35	66C3-4	C3 C4		Lac Ara V1		+ r/- r		111 5 ^r /5 ^s		
36	83A2	173-A2 [3-6]		Lac Ara V1				111 011		
37	83B6			Lac				100		

These have all been analyzed scored for V₁^r and for Lac+V₁^r (presumably there are no cases of Lac+V₁^s/Lac-V₁^r except 56D1. Lac means that the only detected recombinants were Lac+Ara-V₁s. LacV₁ means that Lac+V₁^r was detected; it does not rule out the additional presence of Lac+V₁s or Lac-V₁r, though these are sometimes indicated. Detailed analysis is made only for Lac.Ara cases. For Mal... cases, see detail sheet. There have been no Lac+ S^s/Lac-S^r lacking +r.

DATE:

REF:

#	Exp/Slide	zygotes	Markers segregating	Lac(Ara) VI Analysis	Analysis	Pedigr
1	53D2		Lac	-s	1000 000	✓
2	D4		Lac	-s	100 000	✓
3	55A3	130-D3 = A2	Lac VI [+r] Ara	+	111 000	✓
4	F2	A7	Lac	-s	100 000	✓
5	F5	A4	Lac VI [+r]		101 000	✓
6	H5	H5 A9	Lac VI Ara		111 011	No occ!
7	56B2	131-	Lac VI Ara Xyl Mal Mtl	✓ sole type!		✓
8	B5		Lac (Ara) Xyl Mal	✓ [Lac+/-] [Ara+Xyl+/-]		V ₁ ✓
9	C1		Lac VI		100	
10	C3		Lac VI	+r -r -s	101 001 000	
11	D1		Lac VI	MM -r +s	100 001 000	
12	F3		Lac		100	✓
13	G5	G5	Lac VI Ara		111 000 011	
14	58B1		Lac		100	✓
15	H2		Lac		100	✓
16	59A3		Lac		100	✓
17	59C2, D5		Lac		100	✓
18	C3		Lac VI Ara	+r, -r		clump
19	60A2	A2	Lac Ara		000	✓
20	61C4		Lac			100
21	61G1		Lac Ara VI Mal Xyl S	See detail.		
22	62H5	137 H5	Lac Ara V ₁		110	No occ new ✓
23	63C2		Gal Hfr	x		
24	D6		Lac		100	✓
25	G5		Lac VI		100	✓
26	63B6	B6	Ara V ₁		011 000	vi. ✓
27	64B3		Lac VI		101	✓
28	64C6		Lac			✓
29	64D3		Lac Ara Mal Mtl S V ₁	x		
30	65A3, A6, B5 B6		Lac Ara VI	+s/++r	000 100	
31	65D2		Lac Xyl Mal S	++/+	Ara- V ₁	if types ✓
32	65E3		Lac			100
33	H3		Lac			100
34	66G1	153- C1	Lac Ara VI		000 111	✓
35	66C3-4	C3 C4	Lac Ara VI	+ r/- s	000 111	✓
36	83A2	173-A2 [3-6]	Lac Ara VI			111 011 [000]
37	83E6		Lac			100

These have all been analyzed scored for V₁^F and for Lac+V₁^F (presumably there are no cases of Lac+V₁^S/Lac-V₁^F except 56D1. Lac means that the only detected recombinants were Lac+Ara-V₁s. LacV₁ means that Lac+V₁^F was detected; it does not rule out the additional presence of Lac+V₁s or Lac-V₁r, though these are sometimes indicated. Detailed analysis is made only for Lac.Ara cases. For Mal... cases, see detail sheet. There have been no Lac+ S^S/Lac-S^F lacking +r, except 21

Review of pedyses

1357.

DATE:

June 12, 1957.

REF:

1184.

- (a) lac⁺ V₁ } Review and complete analyses especially for complementarity.
 (b) Mal... S } Handle in 2 groups 1-37 are first group.

If possible write following tabs. #'s

(a)	3	55D3	= A2	missing
	6	55H5	= 39	missing
	13	56G5		missing
10	14	60A2	✓	
	22	62H5	✓	
	26	63B6	✓	lac ⁻ ara ⁺
	30	65A3, 63B5, 6 (A B C D)	✓	
	34	66C1	✓	
	35	66C3, 64	✓	
	36	83A2 (and 3-b)	✓	

grow up in Penassay & recheck ara, V₁, lac

b)	7	56B2	✓	
	8	56B5	✓	
	21	61G1	✓	
	29	64D3	✓	
	31	65D2	✓	

SS: lac⁺(MMX^{-/+})
 (lac⁺ ara⁺ V₁: +++1--S)(MMXS ++++----) lac⁺Fla⁻

check for ara⁺ V₁⁺ (lac, Mal⁺...)

stream to start.

These cultures had all been lysed in tabs. See comments.

Then, what are specific questions?

- a) What combinations of lac, V₁, ara? Make fresh checks of lac, V₁ status where pedyses are available, cosegregants should be checked for ara, V₁ (probably not before).
- b) See details.

6/12/57

Resume of zygotes.
All serial for lac, ara, MXM S, Gal.

DATE:

REF:

Sign
10

	1	2	3	4	5	6	7	8	Analysis?	Sign
51	85	C1	lac	ara	V1					
2		G2	lac							
1178-180	86	A1	lac	ara	.			111,000	✓	✓
		C4	lac	ara	.			100,000	✓	✓
		F4	lac	Mal.	.				✓	
		D1	lac		.				✓	✓
		G1	lac	ara	.				✓	✓
		H4	lac		S				✓	✓
	97	D3	lac		S				✓	✓
		F4	-	ara	S					
60		H4	lac		S					
61		DV	lac		S					
62	1200	D6	lac		S					
63		A3	lac		S					
117	1203	A5	lac		S					
302	1204	D1	lac	ara	V1					
201	1205	E4	lac	ara	V1					
		G4	lac		S					
204	1206	2	lac	ara	R/S					✓
		3	lac							
		5	lac							
		26	lac							
		14=16	lac	ara	R					✓
		34=36	lac	ara	R					✓
		41	lac							
		43	lac		R					
106	1207	A1	lac							
		B5-6	lac							
		D1	lac							
		F1	lac							
		G4	lac							
		A4	lac/ara							
208-218	1210	D1	lac							✓
		D4	lac							
		C1	-							✓
207	1207	C1	lac/ara							✓
		E4	lac							
		A4	lac							
		B5	lac							
		G4	lac							
		D6	lac							
		O3	lac/ara							
		O2	lac							
		A2	lac							
		A6	lac							
		O5	lac							
		G4	lac							

38 zygotes.

DATE: June 14-15 1957.

REF:

	1	2	3	4	5	6	7	8	9	10
$s \rightarrow h_{ec} + A_{u1} + V_1 = 111$ $z \rightarrow h_{ec} - A_{u1} - V_1 = 000$	<p>Errors brought out from stubs \rightarrow necessary on Aug, h_{ec} / T1, etc.</p>									
	3	6	13	19	22	26	30A, DA	30B, C	30DB	
h _{ec} T ₁	+ R	+ R	+ R + - S	+ S	+ S	+ S	+ S	+ S	+ S	+ S
A _u T ₁	+ R	+ R	+ +R - S	+ S	+ S	+ +R - S	- S	- S	+ +R - S	+ R
SM [h _{ec} , A _u J.]	R	R	R	R	R	R	R	R	R	R (XXXXXXXXXX)
infer	1.1 0.1	1.1 0.1	1.1 0.1	0.0 0.1	0.10 1.0	0.11	1.00	0.00	0.1 1.0	0.00 0.1
				why?		look for 010 (A _u +V ₁) 001 (A _u -V ₁)				
h _{ec} T ₁	34 + R [S]	35A + +R -S	35B + +R -S	36 + R	36-3 + S	-5 - S	-6 - S		21	
A _u T ₁	+ R [S]	+ +R -S	+ +R	+ R	+ S	+ -S +K	+ -S +K			
SM.	R	R	R	R	R	R	R			R + R? - S S
	1.1	1.1 0.0	1.1 0.0	1.1	0.00	0.00	0.00	0.00		
			check at T1				(with same or was ?)			
			check							

Discard,

1357
51....

DATE:

REF:

	1	2	3	4	5	6	7	8	9	Used
blue penicillin										
A....			zygotes		casibS....					
	10	Exp. <input type="checkbox"/>								
	51	1185 C1								
	52	G2						already analyzed.	11,000 ✓	
V ₁	53	1186 A1	AR	B12					100,000 ✓	
V ₁	54	C4	C11	<u>C12</u>						
V ₁	55	148-180 F4	F6		F5					
V ₁	57	G1	D11							
V ₁	58	H4	G12							
	59	1197 D3	B25.....							
	60	F4	D3		C3	H5				
	61	H4	F4							
	62	1200 D6	H4		D4					
	63	A3	D6							
	64	1203 <u>1197</u> A3	A3		A5					
V ₁	65	1204 202 D1	A6							
V ₁	66	1205 201 E4	D3							
maybe	67	G4	E4							
V ₁	68	1206 204-5	15 16							
analy. >	69		2 3							
	70		5							
	71		26							
and	72		14 16							
and	73		34 36							
	74		41							
V ₁ Lac	75	1207 206 A1	43							
V ₁	76	B5	43							
	77		A1							
	78		185-186 = 18, 21							
	79		D1							
	80		F1							
	81		G4							
	82	A4	A2 A5 A6							
	83	207 C1	C3							
	84	E4	A2							
	85	A4	A6							
	86	D5	D5							
	87	D4	D6							
	88	C1	d1 d5							
	50		g2							
		 C1 C2 <u>C1</u>							

DATE:

REF:

	7	8	21	29	31A	31B	7	8	9	10
Lac	+	+	+	+	+	+				
+TI	TR	-S	+S	R	R	S				
+sm	TR-R (S?)	TR-R	+S	-R	+S+R-S	TR-R				
Pro	+	+	+	+	-	-				
+TI	TR	-S	R	R	S	S				
+sm	R	R	+S	-R	+S+S+R	R				
Xyl	10	+	+	-	-	+				
+TI	TR	-S	R	R	S	+S				
+sm	R	R	+S	-R	+S-R	R				
Mal	-	+	+	+	-	+				
+TI	RS	S	R	R	S	S				
+sm	R	R	-SR	+S	-R-S	R				
MH	-	-	-	+	-	-				
+TI	RS	S	R	R	S	S				
+sm	-R	R	-RS	TR+5	-R	(+S)-R				

Ammonia 000

hubs ment. ^{12/15?}
 of already
 12/15.
 Note TR
 summer

30

40

50

DATE: June 16, 1957.

REF:

	2	3	4	5	6	7	8	9	10
1357-26.	Lac ⁻ Ara ⁺ ... V_1^{-} . Restrict V_1^{-} segment: any Ara ⁻ Restrict whole culture for random tests as Ara ⁺ .								
-310 6 13 34 35 36	clearly separating Lac, Ara + V_1^{-} . 1.1 and .11 are identified. III must be confirmed and others excluded. i.0 and .10 can be excluded by restricting V_1^{-} segments. Reexamine the random strains for 11, vs 01, vs 10.								

JUN 17 1957

13.	Lac:	V_1^{-} niches	- , +	[chilom Ara: V_1^{-} all +]					
34.	Lac:	V_1^{-} is lac ⁺ only.		"					
3	Lac:	V_1^{-} pure lac ⁺		pure Ara ⁺	"				.00
36	Lac:	V_1^{-} - 1/250 lac ⁻		"	"	"			
35A	Lac	V_1^{-} pure +		"	"	"			
B	Lac	V_1^{-} pure +		"	"	"			
36	Lac	V_1^{-} +, some -.		"	"	"			

copy now
 III III
 III
~~III~~ III .00
 III 011 (i)
 III
 (8) III
 011 III

all these mostly if not all
 Ara⁺ III is likely predominant.

Random platings?
 3 pure Ara⁺ / 1000 lac⁻
 6 pure Ara⁺ lac⁺
 13 lac⁺, - (=) Ara⁺, -
 1 lac⁺, - Ara⁺, -
 lac⁺, - Ara⁺, -
 lac⁺, - pure Ara⁺

v. small colonies on B-lac test.
 lac sens. ok.
 lac sens. ditto
 note paucity of lac generally + esp. of
 Red-SR Ara⁻.
 should check & fix Ara!

no. 01
 in this series.
 seem -
 (all lac⁻ V_1^{-}
 hold, chilom
 as Ara⁺ V_1^{-})

Further analyses

to potatoes

1357

DATE: 6/19/07

REF:

Single Ara colonies → ~~13A~~, T1.

3: (1) $\text{Lac}^+ \text{Ara}^+$

13: (11) $\text{Lac}^- \text{Ara}^-$

35A (23) $\text{Lac}^- \text{Ara}^-$

1 mixed,

$\text{Lac}^- \text{Ara}^+$; $\text{Lac}^+ \text{Ara}^-$

check on Lac!

↳ this Ara-? Note Ara^+ (very small prop of)

000

000

000

000

000

→ 101?

Replica plating

(3) ~100 Lac^+ all $\text{Ara}^+ \text{V}_1^R$, also (1) above

(6) ditto

no 000!

also:

000, 111

111

(13)³⁰

$\text{Lac}^+ \text{Ara}^+ \text{V}_1^R$

$\text{Lac}^- \text{Ara}^- \text{V}_1^S$

$\text{Lac}^- \text{Ara}^+ \text{V}_1^R$

= 1357-13A

$\text{Lac}^- \text{Ara}^- \text{V}_1^R$ (1)

isolate & check. (with sugars etc.)

111

000

011

~~000~~

No $\text{Lac}^+ \text{Ara}^-$ seen. (about 14 Ara^- all Lac^-)

(34)³⁰ ✓ ~ 100 $\text{Lac}^+ \text{Ara}^+ \text{V}_1^R$
5 $\text{Lac}^- \text{Ara}^- \text{V}_1^S$

000

111

(35A) ✓ 50 each $\text{Lac}^+ \text{Ara}^+ \text{V}_1^R$
 $\text{Lac}^- \text{Ara}^- \text{V}_1^S$

111

000

40

(36) 30 each $\text{Lac}^+ \text{Ara}^+ \text{V}_1^R$
 $\text{Lac}^- \text{Ara}^+ \text{V}_1^R$
refined.

111

011

! no

but cosids are 000

000

50

~~13A~~ = $\text{Ara}^- \text{Gal}^-$. Try Glu! ∴ most 111/000 shows no others. Count both on
13 ↓ GR
Glu⁻ (v. slow also). This is either a mutant or contaminant. Save as 13a

→ June 20. 1957. note difficulty of recovering all original components in present platings! 1357

13. Replate to search other types. Check allelism of 001.

6 " " " " Too few lac⁻.

19. Now pure lac⁻, Ara⁺/s V₁^S. Check this. Orig. lac⁺, -
located sites.

21. ¹¹⁶¹²¹ already analyzed: ~~(Ara⁺/s)~~ } lac⁻. MH⁻S^R Mal⁻Xyl⁻
lac⁺ < + s + +
- s - -

what are the ara⁺ now? Repeat earlier isolates.

22 plate: almost all lac⁺. Tryd & Ara. all lac⁺

26 plate. Almost 011,000. ? Any 001,010? 100

29 Repeat ~~Xyl~~/s. Any Mal⁻S^S? Was pure Xyl⁻!

30 DB. Ara⁺/lac⁺/V₁⁺. Plate 5 types, not yet identified!

31 B Mal ↔ Xyl, MH not settled.

35.

36. Now pure? Replate for any Ara⁻. Not worth checking.
cosids are 000.

51-88 Check V₁.

Plate 18 Lac

V, kato + preliminary = "d"
 reanalysis for Anal, mainly.

1357a

DATE: June 21, 1957.

REF: preliminary

	1	2	3	4	5	6	7	8	9	10
				ked, kal,						
9				-S +R	-S -R			100	000	
10				+R	-R -S			101	000	
11				-R (+S)	-R -S			001 100		
18				+R	+R			111?		
10	Lac	Anal	Anal V ₁	Lac V ₁	Anal V ₁					
53A	-	+ -	-S +R	-R -S	-S +R		011 000	No III		
B	+ -	-	+S	S	-S		100			
54A	-	-	-S	S	-S		000			
B	+ -	+ -	+S +R	R +S	-S +R		111 000	Prev. 00. II. only		
55A	-	-	+S	S	-S			See record for recombinants		
B	-	-	-S +R	S	-S		101	previously said.		
56	+ -	-	-S +R	R	-S		100			
57	+ -	-	+S +R	S	-S		000	B is recorded		
64A	-	-	-S	S	-S		100	note.		
20B	+ -	-	-S +R	S	-S		011 100	See record		
65	+ -	+ -	-S +R	+S -R	-S +R		011 100			
66	+ -	+ -	-S +R	-R (+S)	-S +R		011 100			
67A	+ -	-	-S	S	-S		100			
B	+ -	+ -	-S +R	R	-S		111	See record.		
68A	+ -	+ -	+S -R (+S)	+S -R	-S	sic	001 110			
B	+ -	-	-S	S	-S		100 000			
71A	+ -	+ -	+S +R	-S +R	-S +R		(111) 000			
B	+ -	+ -	R	+R	+R		111			
72A	+ -	+ -	R	+R	+R		111			
30B	+ -	+ -	R S	+S +R	+S +R		110?	111 000		
74	+ -	-	+S -R	-R	-R		101	100 000		
75	+ -	-	S	S	S		100	000		
76A	+ -	-	S	S	S		100	000		
B	+ -	-	S	S	S		100	000		
77	+ -	-	S	S	S		100	000		
78	+ -	-	S	S	S		100	000		
79	+ -	-	S	S	S		100	000		
80A	-	+ -	R, S	+S -R	-S	sic	100	000		
B	+ -	-	R, S	-S	-S		100	000		
4C	+ -	+ -	+S -R	-R -S	-R -S		100	000		
81	+ -	+ -	R, S	S	S		100	000		
82	+ -	-	S	S	S		100	000		
83	+ -	-	S	S	S		100	000		
84	+ -	-	S	S	S		100	000		
85	+ -	-	S	S	S		100	000		
86A	+ -	-	S	S	S		100	000		
B	+ -	-	S	S	S		100	000		
87	+ -	-	R	R	R		101 ...			
50										
88A					-S +R					
B					-S					
C					-S					
My	-S +R									
81	+R V ₁ (S)	+V ₁					101 000			
							011, 100?			

See record for recombinants
 previously said.

B is recorded
 note.
 See record

See record.

Record: [100] all now!

The Gal H_2 polymer.

13507-23

DATE: June 21, 1957.

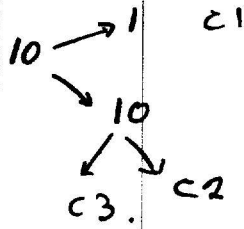
REF:

Recor from stabs.

116302.

ha T1

α : 1 + R
 2 - S
 103 + R.



=

23 ~~C1~~

23 ~~C2~~ [000 0000 %]

23 C3

in test x Y10/ Mlac W2502, 2302A are not finite. Rubens records!

20

30

40

50



26

DATE: 116336

REF:

	1	2	3	4	5	6	7	8	9	10	
	<p>Recorded as lac⁻ lac⁻ lac⁻ ara⁺ / - V₁ V₂ V₃ Duplicate Ara → Ara T1.</p>								011 000.		
					Many .00 .11		No .10 .01		1? exception present This is nibbled: ✓ V ₁		
10	<p>25 Recorded as lac⁺ Ara⁻ V₁. all V₁'s are lac⁻ (>50) All V₁'s are lac⁺ "</p>									000 101 only.	
20											
30	<p>27 lac⁺ V₁ R ; lac⁻ all V₁ S. No evidence on lac⁺ V₁ S but there are too few lac⁺ to tell.</p>								000 101.	✓	
40											
50											

1164D3

REF:

1	2	3	4	5	6	7	8	9	10
Record:	A, 1	000 0000	0						
	B, 2	111 0000	0						
	C, 3	111 1111	0						
	D, 4	000 1111	0						

My first reading was interpreted Xyl⁺ as Xyl⁰.
This is based on Hebeke.
record as Val⁺ Fla⁻.

6/51. α, Xyl⁺S^s/-r.

Some possible Xyl⁺S^r mentioned. Note also ref. Mal⁺S^v. Hebeke!
as structure there is nothing in Xyl⁺ but no Xyl⁺. Special.

30

40

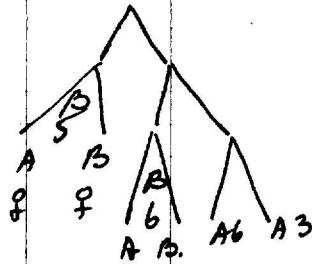
50

1357
30
✓

DATE: 1163A3

REF:

1 2 3 4 5 6 7 8 9 10



10
A3=30A
A6=30B
B5=30C
B6=30DA
30DB.

α:
lac⁺, - Ara⁻ V₁^S
ooo
lac⁺ - Ara⁻ V₁^S
Lac⁺S₁; -R; +R? Ara⁺R - S

ooo 100
ooo 100
100 000
111.

✓ not yet analyzed.

20

30DB - plated. Ara⁻ → Ara⁺
lac⁺ → lac⁻.

Rephitiform 6/30
lac → Lac, Lac T1, Ara ↓

∴ must include
Ara⁻lac⁺
Ara⁺lac⁻
prob Ara⁺lac⁺

lac⁺, - No 0.1
Many 0.0 1.0 1.1

30

ooo ✓
111 ✓
100 ✓

Ara. 0.0 are all Ara⁻ ∴ ooo ✓ooo
Ara⁺ V₁^S no .00 < 000
no 0.1 < 001
no .01 < 011
probably many ✓ 100
exceptions are 100 ✓ 111
to be checked.
probably escapes ✓ ? 101

No 40 011

6/30. 50 On plating of 60DB on lac T1,
2/10 V₁^S are all lac⁺. 1 lac⁻, probably
escape but include ✓ ooo

Structure on Ara T1.
+ plate on T1. No
lac for 011
No. Ara⁻ is V₁^S. all V₁^S are Ara⁺ but
with some exceptions. .01
No Ara⁻ V₁^S Ara⁺ V₁^S ∴ No 0.10

31 A-B.

1357
31

DATE: 1165D2

REF:



	1	2	3	4	5	6	7	8	9	10
Record:			000 0000 0							
B			100 0011 0		A	100	0000			
			100 0000 0							
			000 0011 0							
Now	all MH ⁻ Xyl ⁻ Mel ⁻ Arg ⁻ mucoid. Mostly S ⁺ , some lact ⁺ , Lac S ⁺ . Finis.									
α: Arg ⁺ V ⁺										
	<pre> / \ D3 / \ / \ A B \ / D2 </pre>									
20										
30										
40										
50										

DATE: 1166C3-4

A ↓

B ↓

REF:

1 10² → 3 ⊕¹⁰ C54 C3⁵ 000000 C4₀ C6₀ X⁸ 9 10

A)

111
000 } 10² tested. Lact⁺, - S^R; Xyl - S^R; Mal -

✓ B)

Lact⁺ S^S
Lact⁺ S^R
Lact⁻ S^R? Xyl - S^R ✓
Xyl⁻ S^S (faint papillae)
Mal⁻ ✓

Plating: Pure Lact⁺ Pure Mal⁺ About 10% S^R.

Original records, was Lact⁺, - check S^S for phage.

Good from
B lac.

all V.R. 1/10 of unselected are S^R 9/10 S^S. all Lact⁺ Mal⁺.

30

000
111 0000
111 0001

Look in 35A for 0001 types! Tar had no 000 left in 35B.

40

50

DATE: 1183A2.

REF:

slab.
3-6 checked
d: 000...0

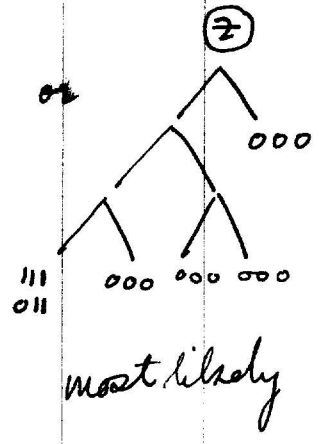
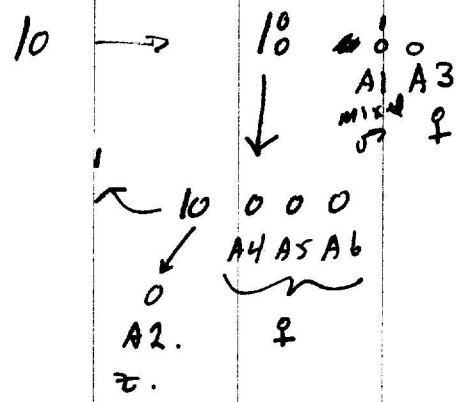
260 repl test, half each →.

111 011 (000)
?

look for 100?

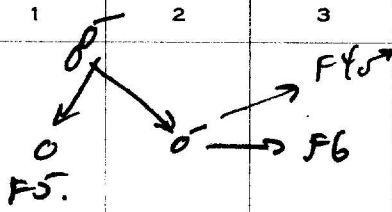
No tra- found as replating (> 300 Aca+).

10
20
30
40
50



1186 F4.
DATE:

REF:



Dec. record

F5 = ♀
 F6 = (dia⁻ xyl⁻)
 gal⁺ SR H⁻
 no lac⁺ Mal⁺

8	9
lac ⁻ Mal ⁻	
lac ⁺ Mal ⁻	
lac ⁻ Mal ⁺	

6/507. Only lac⁻ recovered. Not hopeful for further detail.
 check on Mal; Recover F6ABC and check these on V₁.

- A - A Mal⁻ V₁^S
- B Mal⁺ V₁^S
- C Mal⁻ V₁^S
- O Mal⁺ V₁^S

✓ against record.

~~F6: 4 * lac⁻ on V₁? not representative of~~

58.

1357
~~58~~ 58

DATE: 118644.

REF:



58

1 Detailed polymerically analyzed. 6

7

B25
and A }
B }
C }
d }
entire polymer has.

9 all - V.S.
and - V.S.

10

10

20

30

56

No U, ^s almost pure U, ². 101. No 000.

~ 4 apparent 001, looks atypical fermentation. If 130. Check again
these are bal. slow as 130. Do not score as 001. Same

40

50

65-66

13507
65 ✓
66 ✓

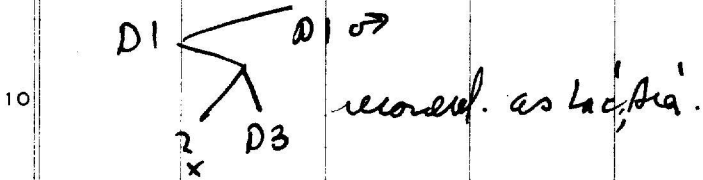
DATE: 1204 - [202] D1

REF: 000

65

1	2	3	4	5	6	7	8	9	10
	α :	Lac ⁺ V ₁ +S -R		Ara ⁺ V ₁ -S +R			011	100	

∴ 011 and 100 probable. Need further analysis.



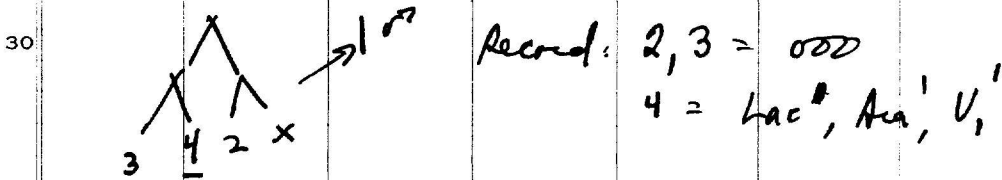
α repeat: Ara⁻ S +R at least ditto Lac. Carter's chol.

α': V₁ Ara⁺, Ara⁻ V₁ Ara⁺ only. ∴ 000 and 111, 01 excluded, 001 "

Replac plate: Lac⁺ V₁ Ara⁺ = 111 and 000 predominate 000 111 ✓

2? 001 at margin, which → 000
1? 011 → 011 SIC:

66 1205 E4. α: as above.



α repeat: as above

α': V₁ Ara⁺ V₁ Ara⁺, -
Lac⁺ Lac⁺, -

000 and 111 / No ~~100~~
↓
0.1
01

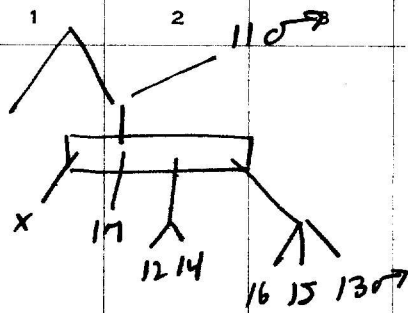
Replac test: Mostly Ara⁺, Lac⁺. 111 and 00. only
Two dubious 001 at plate margin. Recheck V₁ → 000

50

1205-04

= 116302 x 03

REF:



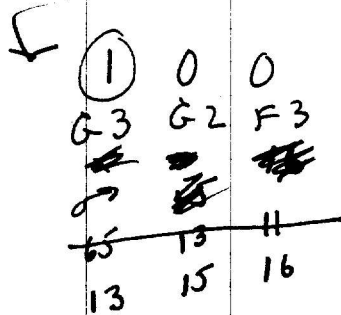
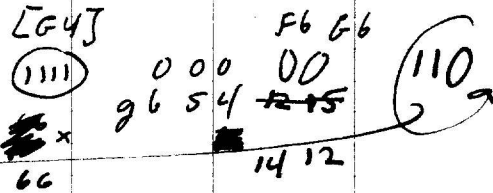
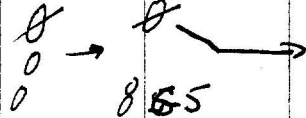
Record 15 = 100 = 67A

α : and plating
lac⁺/lac⁻ all for V₁S

16: stated mixture of ♂♀ and possible artifact.

Isolation Record:

04-0



It seems conceivable that
110 → 110 → 1 1 0 0

Alternatively 15 was a homozygote. The irregularity of this pedigree makes it a poorly to decide my issue.

Isolate components of 16. = 67B.

strains B0al.

mostly bal* - puts 2-3 to both.

1357
68
✓

DATE:

REF:

68A.

α : $ara^+ V_1^S$ $hac^- V_1^R$ (~~hac~~) \therefore No .11
? $hac^+ S$ - R. .01
.10

10 Restrains V_1^R, V_1^S hac
 V_1^S ara^+ - V_1^R ara^- hac^+ \therefore 101
mostly hac^- 010
.000
inferred.

20 hac plate most 101 000
 hac^+ ara^+ V_1^R, V_1^S ara^- Most hac^- ara^+ V_1^S, ara^-
? $hac^+ V_1^S$

The plate is too crowded for full screening of hac/hac comparisons.

30 1 probable $hac^- V_1^R$ ara^- 001 ~~000~~
Rebels.

All ara^+ are V_1^S
 $ara^- V_1^S$
 $ara^- V_1^R$ hac^+ = 101

40 Types certainly present absent ? whole these.
000 011 001 1? $hac^- V_1^R$ ✓
010 111
101
001 110 n.f. 100 } 7? $hac^+ V_1^S$ → 1 101
100 110 } 6 100

50 \swarrow
Aubule #3: has some .10
 ara^+
spot on hac to see if 110
No: mixture of 010 and 100.

1357
71
✓

DATE:

REF:

A)

1 α : $lac^+ V_1^+$, $lac^- V_1^s$
2 $lac^+ V_1^{++}$ v.s.

hard to read differential. Restriction V_1^+ , V_1^s .

{	V_1^+ lac^+ - lac^+ -	000
	V_1^s lac^+ - lac^+ - (fewer)	011 111

looks for 100.

20 Repeating plate (lac , lac^{II} , lac^+)

No 1.0 pretty II. and 00.

All $lac^- lac^+$ are $V_1^s = 011$

No $lac^+ lac^-$

No .10
.01
~~00~~

30

∴ established $\frac{000}{111}$ (all lac^-).

No 100 in samples 100 cells.

looks for more?

40

50

1357

72B



DATE:

REF:

111

098

1

2

3

4

5

6

7

8

9

10
 Reply: mostly lac⁺ dia⁺. All ~~lac~~ V^R are lac⁺ ~~dia~~ dia⁺
 lac, dia engagement.

20
 72A also. 111 rx

30

40

50

6/22/57

Preliminary resume
51-88

1357

DATE:

REF:

#	Exp'code	coz.	sibs	prelim scores	6	7	8	data page?	Finish
51	1185 G1				111	000			>
52	G2				100	000			>
53	1186 A1	A2 B12			011 000; 100	No 111			>
54	C4	C11 C12			000; 111	000			>
55	F4	F6 F5		Lac' Mal'	00; 10; 01	No 11	U, S.	.	✓
56	D1	D11			101				>
57	G1	G12			100				>
58	H4	extensive pedigree		Lac Mal Xyl....	.00....			.	>
59	1197 D3	D3	C3 H5		100	000			>
60°	E4				010				>
61	H4	H4	D4		100				>
62	1200	D6			100				>
63		A3			100				>
64	1203-197	a5-a6..			100				>
65	1204 D1	D3		011 100				.	>
66	1205 E4			011 100				.	>
67	1205 G4			100 ; male?				.	>
68	1206 204-5	2; 3		001 110; 100	000				>
69		5			100				>
70°		26			100				>
71		14 16		111 000					>
72		34 36		111 110?					>
73		41			100				>
74		43		100					>
75-1207	206-	A1			100				>
		B5			100				>
		FL D1			100				>
		FL			100				>
79		G4			100				>
80°	A4	A2-5-6		010 001; 000 100;	001 100			.	✓
81	207C1	C3	D2						>
82	E4	A2		100					>
83	A4	A6		100					>
84	D5	D5		100					>
85	G4	D6		(100) now 000					>
86	1210 208D1	d1 d5		100; 100					>
87		7/24 g2		101...					>
88	G1			Flat see pedigree				.	>

40

50