

Dec. 319 58

REF:

	1	2	3	4	5	6	7	8	9	10
1	Interest centers in Galt Lac-papillating, so of the questionable									
2	V's from such ESO A, several suspect colonies were restreaked									
3	on Hac.									
4	<u>Lac</u>									
5	1-17		+ , - , + , -							
6	2-34									
7										
8										
9										
0										
1	2-34		? , +	+ slow	+ +					1 → 4 probably + pap
2										# 5 V pap
3	4-12		+ , + , + , ?							
4										
5	5-11		?		✓					
6	not Galt	{	5-27		✓					
7										
8										
9										
0										
1	ESO C =		<u>Ara</u>			<u>Lac</u>				
2	+ pap.									
3										
4	1-17		- - - -			+ + + +				
5										
6	2-34		- - - -			+ + + +				
7										
8	5-11		+ - - -	✓ ✓		- - - -				3, ✓?
9										
0										
1	5-27		- - - -			+ + + +				
2										
3	4-12		- - - -			+ +				
4										
5										
6										
7										
8										
9										
0										
1	5-27	✓	=	Ara ✓	,	Lac ✓				
2	5-11	✓	=	"		"				
3										
4										
5										
6										
7										
8										
9										
0										

reincubated

(Test both kinds of lac- from Ara V & Lac Rev.)

Lac Reactions of
Original E50's.

Dec. 4 1958

REF:

	1	2	3	4	5	6	7	8	9	10
2	Streaks on B Lac from DM-Ara-B ₁ liquid of original									
3	E50's (only those circled in red by J L).									
6	1 DAY (all-except :)					2 DAYS				
8	1-14		very	few	dark		> 1/2	V	or pap?	original darks
9										now look full +
10	2-34		all	-			bluish + pinkish	- 's	larger	col papillated. Few Revs
1							(in brush area.			3 days - all pap. (E-)
2	3-16		very	few	dark		original darks	now look full +;		< 1/2 of rest papillated +.
3										
4	4-6		very	few	dark		> 1/2	pap. +	(possibly V?)	orig. dark seem full +
5	5-5		-				-			
6	5-20		-				-			
8	E50 E From 1st 4 of above pick and streak on Lac and Ara:									
9			a =	early	+					
10			b =	V	or	pap.				
1			c =	-	(control)					
4	type # 2 Hfr Lac's see AC - corresponds to F ⁻									
7	Dixy for Frankly +									
10	2nd 5: Str. Lac Ara → get Ara segs + type for Ara Lac									
2	W4265	E-	TL Th P	Lac ₁	Xyl ₂	Gal ₂	Ara ₂	V ₁	V ₆	S
4	W4002	Hfr	Ara ₃	Lac ⁻	Th ₁					a ₁ 2 nd
7	(15?)	Lac	13	Hfr = 3836		E ⁻ = 313A				

	1	2	3	4	5	6	7	8	9	10
1	From original E 50's ^{Lac} by early t, 2nd day V or									
2	papillated, and -									
3										
4										
5	B Lac 2 days					B Ara 2 days				
6										
7	1-14	early t	+		+		-		-	
8		"V"	t, -, V		+, -, V		V, -		V, -	
9		-	-		- papillating		-		-	
10										
1										
2	2-34	blue V	t, -		+ and -		premature		- also very small	
3		pink V	t, -, V		(- papillating)		- (1 Rev)			
4		- blue	- and few + !!!		+ and weak		- (4 Rev)			
5			several +, - papillated							
6										
7	3-16	early t	+		+		-		-	
8		"V"	t, -, V		+, -, V		V		V, -	
9		-	-		- (2 Rev)		small col (as above) and			
10							also V ? - , sev. rev			
1										
2	4-6	early t	+		+		-		-	
3		"V"	+, -, V		+, -, V		V		V, -	
4		-	-		(1 + = probably accident)		-		-	
5					- , sl. papillating					
6										
7										
8										
9										
10										
1										
2										
3	"V" in this run is definitely V, not papillated									
4										
5										
6										
7										
8										
9										
10										

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REF:

	1	2	3	4	5	6	7	8	9	10
1	5-57 Ara v etc. position looking									
2	restreak on Lac + Ara (from Ara) ; a. b. c - 1/2 plate									
3	20 hrs - normal -									
4										
5										
6										
7	48 hrs									
8	didn't grow in DM Ara - B1									
9	← (a)									
0	Ara									
1	-, +, v									
2	Lac									
3	+, -, v									
4	C									
5	+, -, v, butterfly									
6										
7										
8										
9										
0										
1										
2										
3	= several Lac (B1) rest. bit on Lac and Ara									
4	20 hrs all normal -									
5										
6										
7	Ara									
8	-									
9	Pure light									
0										
1	Dark, pig. letting									
2										
3	Mixed dark & light									
4										
5										
6										
7										
8										
9										
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
0										

50 G

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REF:

rest =
blue

	1	2	3	4	5	6	7	8	9	10
1	2-34 and 3-16 on B-Ara seemed to produce									
2										
3	2 types of - colonies, larger pink ones and									
4	smaller lighter (white) ones, all non-papillating.									
5	Representatives of each were restreaked on Lac and Ara									
6	to see if the Lac reaction differed and to see if the									
7	Ara difference were genetic or phen environmentally produced.									
8	2 day readings									
9										
10										
1										
2										
3										
4	3-16 large			B Ara			B Lac			
5	1		- 3 large				-			
6	2						-			
7	3						-			
8	4						-			
9	5						-			
10	6						-			
1	7						-			
2	8						-			
3	9						-			
4	10						-			
5	11						-			
6	12						-			
7	3-16 small						-			
8	1						-			
9	2						-			
10	3						-			
1	4						-			
2	5						-			
3	6						-			
4	7						-			
5	8						-			
6	9						-			
7	10						-			
8	11						-			
9	12						-			
10	2-34 large						-			
1	1						-			
2	2						-			
3	3						-			
4	4						-			
5	2-34 small						-			
6	1						-			
7	2						-			
8	3						-			
9	4						-			
10	12/13						-			

no real difference from above - just a bit lighter color

~~orange and papillating~~
orange and papillating
orange and papillating
orange and papillating
orange and papillating

orange + papillating

all colonies - + papillated (none not papillated)

restreak ^{non-papillated} ^{Ara} ^{50 J} ^{50 K} ~~with 2-34~~ and test for Lac and test for Lac pap.

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REF:

	1	2	3	4	5	6	7	8	9	10	
1	Ara and Lac typing of single colonies from 50 I. All picked										
2	from Ara.										
3											
4											
5											
6					EM-Ara-	B ₁	T ₁		EM-Lac		
7											
8					W4163	W4068	W4069		W3229	W3856	W4358
9											
0		3-16	large, non pap	-	+	+	-	7 col	-	-	
1			"	-	+	+	+	3 col	-	-	
2			"	-	+	+	+	-	-	-	
3			"	-	+	+	+	1 col	-	-	
4			"	-	+	+	+	-	-	-	
5			"	-	+	+	+	1 col	-	-	
6			"	-	+	+	+	-	-	-	
7			"	-	+	+	+	-	-	-	
8			"	-	+	+	+	-	-	-	
9			Lac pap	-	+	+	+	-	-	-	
0			"	-	+	+	+	-	-	-	
1			"	-	+	+	+	-	-	-	
2	Plate # 1		"	-	+	+	+	-	-	-	
3	Plate # 2		small (no pap)	+	-	+	?	3 col	-	-	
4			"	+	-	+	-	6 col	-	-	
5			"	+	-	+	-	-	-	-	
6			"	+	-	+	-	1 col	1 col	-	
7			"	+	-	+	-	1 col	-	-	
8			"	+	-	+	-	1 col	-	-	
9			Lac pap	+	-	+	-	1 col	-	-	
0			"	+	-	+	+	-	-	-	
1		2-34	large	-	+	+	-	1 col	-	-	
2			"	-	+	+	-	6 col	4 col	-	
3			"	-	+	+	+	1 col	-	-	
4			"	-	+	+	+	2 col	-	-	
5			small	+	-	+	-	+ sev. col	5 col	few (= reverse?)	
6			"	+	-	+	-	+ sev. col	4 col	-	
7			"	+	-	+	-	-	-	-	
8			"	+	-	+	-	10 col	-	-	
9			"	+	-	+	-	-	-	-	
0			"	+	-	+	-	-	-	-	
1								+ +	-		
2											
3											
4											
5											
6											
7											
8											
9											
0											

rather weak recomb.

rather weak

1 Streaks from papillated Lac colonies from Lac plates of 50 I
2 on B Lac .
3
4

5
6 2-34 large : mostly +
7 2-34 small :
8 3-16 #4 large : mostly -, some pap = 1st
9 #4 small : mostly +
0 #8 large : +, -, v?
#11 large : +, -, v?

hard L read
(too old)

Restreak a +, -, + v on Lac + Ara = 40 L

B Ara

B Lac

1

-

+

-

-

-

+, -

2

2-34

-

-

-

+

3

-

-

-

+, - and v?

-

+

-

+

4

⊙ -

+

-

+, - (slimy)

-

- (slimy)

(slimy)

5

3-16

-

+

-

-, +

-

+

6

-

+

-

-

-

+

not
= suggest.

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REF:

1 Testing of lac test system.

	M Lac			M Lac Meth ^{reverting} λ			M Lac B1			M Lac Meth B1 ^{reverting} λ		
	3229	3836	4358	3229	3836	4358	3229	3856	4358	3229	3836	4358
0 W4147 (F ⁻ Lac ⁻ prototroph)	+	-	+	+	-	+	+	-	+	-	-	+
2 50Fb #8 (Rec. \bar{c} 3229 and 3836)	-	+	-	Syn	+	-	growing	growing	growing	growing	growing	growing
3 and 3836)	(8 ul)	(8 ul)		growing	growing	growing						
4 50Fb #7 (Rec \bar{c} neither)	+	-	-	+	-	-	growing	growing	growing	growing	growing	growing
5 1-14 #23 (Rec. \bar{c} 3229 and not \bar{c} 3836)	-	-	-	-	-	-	growing	growing	growing	growing	growing	growing
6 3-16 #40 as above but 1 instead of 3 ul.	-	-	-	-	-	-	growing	growing	growing	growing	growing	growing

reverted on plate

Theoretically:

	W3229	W3836	W4358
♀ Lac (=15)	-	-	+
♂ Lac	+	+	-
Compd	-	-	-
W4147	+	-	+

W3836 = Hfr Lac⁻ M⁻ V^r
W3229 = Hfr Lac⁺ M⁺ Lac⁺
W4358 = Hfr Lac⁻ Ara^s Th

450

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	1	2	3	4	5	6	7	8	9	10
1			EM-Ara-Bi			EM-Lac				
2										
3										
4			4163	4068		3826	3227			
5			W 2994	W 4076		W 3229	W 3256			
6	1-14	# ①	+	-		-	-			
7		②	+	-		-	-			
8		③	+	-		-	-			
9		4	-	+		-	-			
0		5	Ara +			-	-			
1		6	-	+		-	-			
2		spotty ⑦	- al	+		-	-			
3		8	-	+		-	-			
4		⑨	-	+		-	-			
5		10	-	+		-	-			
6		11	-	+		-	-			
7		12	-	+		-	-			
8		13	Ara +			-	-	+ (1 col)		
9		14	-	+		-	-			
0		15	-	+		-	-			
1		16	-	+		-	-			
2		17	-	+		-	-			
3		18	-	+		-	-			
4		19	+	-		-	-			
5		20	-	+		-	-			
6		21	+	-		-	-			
7		22	+	-		-	-			
8		23	Ara +			-	-	+ (3 col)		
9		24	-	+		-	-			
0		25	-	+		-	-			
1		26	-	+		-	-			
2		27	-	+		-	-			
3		28	Ara +			-	-			
4		29	-	+		-	-			
5		30	+	-		-	-			
6		31	-	+		-	-			
7		32	Ara +			-	-			
8		33	-	+		-	-			
9		34	+	-		-	-			
0		35	-	+		-	-			
1		36	+	-		-	-			
2		37	+	-		-	-			
3		38	+	-		-	-			
4		39	+	-		-	-	+ (1 col)	+ (1 col)	
5		40	-	+		-	-			
6		41	-	+		-	-			
7		42	+	-		-	-			
8		43	-	+		-	-			
9		44	-	+		-	-			
0		45	-	+		-	-			

○ = growth on EM-Ara-B

EM-Lac didn't grow after 3 days

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REF:

	1	2	3	4	5	6	7	8	9	10
1										
2										
3										
4										
5			EM - Ara - B ₁			EM - Lac didn't grow after 3 days T ₁				
6						W3229	W3836			
7	2-34	①	+	-			-		-	- =
8		②	+	-			-		-	No
9		③	+	-			-		-	growth
0		④	-	+			-		+	(Sensitivity)
1		⑤	+	-			-		-	+ =
2		⑥	-	+			-		-	Resistant
3		⑦	-	+			-		-	
4		⑧	Ara +				-		+	(P)
5		⑨	+	-			-		P	P = partially
6		⑩	-	+			-		-	R
7		⑪	-	+			-		-	
8		⑫	+	-			-		-	
9		⑬	+	-			-		-	
0		⑭	+	-			-		-	
1		⑮	+	-			-		-	
2		⑯	+	-			-		-	
3		⑰	Ara +				-		+	
4		⑱	+	-			-		-	
5		⑲	+	-			-		-	
6		⑳	+	-			-		P	
7		㉑	+	-			-		+	
8		㉒	-	+			-		-	
9		㉓	Ara +				-		P	
0		㉔	-	+			-		+	
1		㉕	+	-			-		+	
2		㉖	Ara + sl				-		-	
3		㉗	+	-			-		+	
4		㉘	-	+			-		-	
5		㉙	+	-			-		+	(P)
6	→	㉚	+	+			-		-	
7		㉛	+	-			-		-	
8		㉜	+	-			-		+	
9		㉝	+	-			-		+	
0	→	㉞	+	+			-		+	
1		㉟	-	+			-		+	
2		㊱	+	-			-		-	
3		㊲	+	-			-		-	
4		㊳	+	-			-		-	
5		㊴	+	-			-		-	
6		㊵	+	-			-		-	
7		㊶	-	+			-		-	
8		㊷					-		-	
9		㊸					-		-	
0		㊹					-		-	

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REF:

	1	2	3	4	5	6	7	8	9	10
1										
2										
3										
4			EM - Ara - Bi				EM - Lac (didn't grow after 3 days)			
5										
6	3-16	①	+	-		-	-			
7		②	+	-		-	-			
8		③	+	-		-	-			
9		④	+	-		-	-			
0		⑤	+	-		-	-			
1		⑥	+	-		-	-			
2		⑦	+	-		-	-			
3		⑧	+	-		-	-			
4		⑨	+	+		-	-			
5		10	-	+		-	-			
6		⑪	+	-		-	-			
7		⑫	+	-		-	-			
8		13	-	+		-	-			
9		14	+	-		-	-			
0		⑮	+	-		-	-			
1		⑯	-	+		-	-			
2		17	Ara +			-	-			
3		⑰	+	-		-	-			
4		19	+	-		-	-			+ (1 col)
5		20	-	+		-	-			
6		21	-	+		-	-			+ (1 col)
7		⑲	+	-		-	-			
8		23	+	-		-	-			
9		24	-	+		-	-			
0		25	-	+		-	-			
1		26	-	+		-	-			+ (1 col)
2		27	-	+		-	-			
3		28	-	+		-	-			
4		29	-	+		-	-			
5		30	-	+		-	-			
6		31	-	+		-	-			
7		32	-	+		-	-			
8		33	-	+		-	-			
9		34	-	+		-	-			
0		35	-	+		-	-			
1		⑳	+	-		-	-			+ (1 col)
2		㉑	+	-		-	-			+ (1 col)
3		㉒	+	-		-	-			
4		㉓	+	-		-	-			
5		㉔	+	-		-	-			
6		㉕	-	+		-	-			
7			-	+		-	-			
8			-	+		-	-			
9			-	+		-	-			
0			-	+		-	-			

→

Spot 7

	1	2	3	4	5	6	7	8	9	10
1										
2		EM-Ara-B,			EM-Lac					
3										
4	4- 11	Ara +			3229	5836				
5	→ 2	+al +								
6	3	- +al								
7	→ 4	- -								
8	5	- +								
9	6	Ara + al								
0	7	- +								
	8	- +								
1	9	- +								
2	10	- +								
3	11	Ara + al								
4	→ 12	+ -								
5	→ 13	+ +al								
6	→ 14	- -								
7	15	- +								
8	16	Ara +								
9	17	- +								
0	spotty 18	- +								
	→ 19	-(1 col)								
1	20	- +								
2	21	- +								
3	22	+ -								
4	23	- +								
5	24	- +								
6	25	- +								
7	26	- +								
8	27	+ -								
9	28	+al -								
0	29	- +								
	30	+al -								
1	spotty 31	+al +								
2	32	Ara +								
3	33	- +								
4	34	- +								
5	→ 35	+ +								
6	36	- +								
7	37	- +								
8	38	Ara +								
9	39	Ara +								
0	40	Ara +								
	41	+ -								
1	42	- +								
2	43	- +								
3	44	Ara +								
4	45	+ (1 col)								
5										
6										
7										
8										
9										
0										

didn't grow after 2 days



	1	2	3	4	5	6	7	8	9	10
1										
2										
3			EM-Ara-B ₁			EM-Lac				
4	4-6 (7)	Ara +			5836	didn't grow				
5	2	+	-			at 3 days				
6	3	-	+							
7	4	+	-							
8	5	-	+							
9	6	-	+							
0	7	Ara +								
1	8	-	+							
2	9	-	+							
3	10	-	+							
4	(11)	-	+							
5	12	+	-							
6	13	-	+							
7	14	-	+							
8	15	Ara +								
9	(16)	+	-							
0	17	-	+							
1	18	-	+							
2	19	-	+							
3	20	-	+							
4	21	-	+							
5	(22)	+	-							
6	23	-	+							
7	(24)	+	-							
8	el (25)	-	+							
9	26	-	+							
0	27	Ara +								
1	(28)	+	-							
2	29	+	-							
3	30	-	+							
4	→ 31	+ el	+							
5	32	-	+							
6	el (33)	+	-							
7	34	-	+							
8	35	-	+							
9	spilly (36)	-	+							
0	37	-	+							
1	38	-	+							
2	39	-	+							
3	40	-	+							
4	41	-	+							
5	42	-	+							
6	(43)	+	-							
7	44	-	+							
8	sl (45)	-	+							
9										
0										



	1	2	3	4	5	6	7	8	9	10
	5-20	EM Ara B ₁			EM Lac					
1		Ara + sl				-	didn't grow after 3 days	I I - (P)		
2		+				-		-		
3		Ara + sl				-		- (P)		
4		Ara +				+(1 sl)		P		
5		+	-					-		
6		+	-					-		
7		-	+					-		
8		-	+					-		
9		-	+					-		
0		+	-					-		
1		+						-		
2		+						+		
3		Ara + sl						P (-)		
4		Ara + sl						-		
5		+	-					-		
6		+	-					-		
7		Ara +	+					+		
8		+	-					-		
9		Ara + sl						P		
0		Ara + sl						+		
1	→	+	+ sl					P		
2		Ara + sl						-		
3		+						-		
4		+						-		
5		-	+					P (-)		
6	sl →	+ sl	+					+		
7		-	+					-		
8		+	-					-		
9		+	-					-		
0	spoty →	+ sl	+					+		
1		+	-					-		
2		-	+					P		
3		+	-					-		
4		+	-					-		
5		+	-					-		
6	spoty →	-	+					+		
7		-	+					+		
8		+	-					-		
9		+	-					-		
0		Ara + sl						-		
1	→	+	+ sl					-		
2		+	+					-		
3		Ara + sl						+		
4		Ara + sl						- (P)		
5		Ara +						+		
6										
7										
8										
9										
0										

50L: streaks of above for 5 (1) for retest 2

O = green "mud" in whole streak

19

REF:

	1	2	3	4	5	6	7	8	9	10
1										
2										
3		EM Ara (B ₁)			EM Lac		3 days on EM Lac			
4							stroke dark			
5	50F6 ①	+	-		1 col	-				
6	= ②	+	-		-	-				
7	5-573 ③	+	-		-	-				
8	④	+	-		-	-				
9	⑤	+	-		-	-				
0	⑥	+	-		-	-				
1	⑦	+	-		-	-				
2	⑧	+	-		+ (4 col)	- (500 col)				
3	⑨	+	-		+	+				
4	⑩	+	-		-	-				
5	⑪	+	-		-	-				
6	⑫	+	-		-	-				
7	⑬	+	-		-	-				
8	⑭	+	-		-	-				
9	⑮	+	-		-	-				
0	⑯	+	-		-	-				
1	⑰	Ara +	-		-	-				
2	⑱	+	-		-	-				
3	⑲	+	-		-	-				
4	22	-	+		-	-				
5	23	-	+		-	-				
6	24	+	-		-	-				
7	25	+	-		-	-				
8	26	+	-		- (1 col)	+ 500 = Larker?				
9	27	-	+		-	-				
0	28	+	-		-	-				
1	29	+	-		-	-				
2	30	+	-		-	-				
3	31	+	-		-	-				
4	32	+	-		-	-				
5	33	+	-		-	-				
6	34	Ara +	-		-	-				
7	35	+	-		-	-				
8	36	+	-		-	-				
9	37	+	-		-	-				
0	38	+	-		-	-				
1	39	+	-		-	-				
2	40	+	-		-	-				
3	41	+	-		-	-				
4	42	Ara +	-		-	-				
5	43	+	-		-	-				
6	44	+	-		-	-				
7	45	+	-		-	-				
8										
9										
0										

growing but light
↓

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REF:

	1	2	3	4	5	6	7	8	9	10
	From Ara plates									
1	Plate 1	2-34	# 33	lgt	1-3	dark	4-6	pop	7-8	
2		2-34	# 37	lgt	-	5	dark	6-10		
3	Plate 2	3-16	# 9	lgt	1-5	dark	6-10			
4		4-1	# 13	lgt	1-5	dark	6-10			
5	Plate 3	4-1	# 14	small	1-4	large	5-10			
6		4-1	# 35	lgt	1-4	dark	5-8	v	9-10	
7	Plate 4	4-6	# 31	lgt	1-4	dark	5-8	pop	9-10	
8		5-20	# 21	lgt	1-4	dark	5-6			
9	Plate 5	5-20	# 26	lgt	1-4	dark	5-8			
10		5-20	# 41	lgt	-	4	dark	5-9		

Since ^{some} "single" colony isolates gave ambiguous results in Ara typing (see 50M), they were restreaked from little penassay on B Ara. They manifested colonial differences (see below), so representative types were retested for Lac and Ara types.

~~ms~~
On B Ara (2 days)

1	2-34	# 33	mostly orange -	few light -	2 sl. pap.
2		# 37	as above		
3	3-16	# 9	as above		
4	4-1	# 13	as above		
5		# 14	no good color dif;	few small col,	mostly larger
6		# 35	more light than	orange;	few v?
7	4-6	# 31	mostly orange,	some light,	some pap (large centr area)
8	5-20	# 21	mostly lgt,	very few dark	
9		# 26	mostly orange,	few lgt	
10		# 41	mostly lgt,	few dark	?

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REF:

	1	2	3	4	5	6	7	8	9	10
1	= Typing of sing. colony isolates from B - Ara.									
2										
3										
4				EM- ara - B ₁				EM- Lac		
5										
6				W4163	W4068	W4069		W3229	W3836	W4358
7		2-34	# 33 (lg)	+	-	+		-	-	-
8			"	+	-	+		↓	↓	↓
9			"	+	-	+		↓	↓	↓
0			dark	-	+	+		↓	↓	↓
1			"	-	+	+		↓	↓	↓
2			pap	-	+	+		↓	↓	↓
3			"	-	+	+		↓	↓	↓
4		2-34	# 37 (lg)	+	-	+		↓	↓	↓
5			"	+	-	+		↓	↓	↓
6			"	+	-	+		↓	↓	↓
7			"	+	-	+		↓	↓	↓
8			"	+	-	+		↓	↓	↓
9			dark	-	+	+		↓	↓	↓
0			"	-	+	+		↓	↓	↓
1			"	-	+	+		↓	↓	↓
2			"	-	+	+		↓	↓	↓
3			"	-	+	+		↓	↓	↓
4		3-16	# 9 (lg)	+	-	+		↓	↓	↓
5			"	+	-	+		↓	↓	↓
6			"	+	-	+		↓	↓	↓
7			"	+	-	+		↓	↓	↓
8			"	+	-	+		↓	↓	↓
9			dark	-	+	+		↓	↓	↓
0			"	-	+	+		↓	↓	↓
1			"	-	+	+		↓	↓	↓
2			"	-	+	+		↓	↓	↓
3			"	-	+	+		↓	↓	↓
4		4-1	# 13 (lg)	+	-	+		↓	↓	↓
5			"	+	-	+		↓	↓	↓
6			"	+	-	+		↓	↓	↓
7			"	+	-	+		↓	↓	↓
8			"	+	-	+		↓	↓	↓
9			dark	-	+	+		↓	↓	↓
0			"	-	+	+		↓	↓	↓
1			"	-	+	+		↓	↓	↓
2			"	-	+	+		↓	↓	↓
3			# 14 small	+	-	+		↓	↓	↓
4			"	+	-	+		↓	↓	↓
5			"	+	-	+		↓	↓	↓
6			"	+	-	+		↓	↓	↓
7			large	+	-	+		↓	↓	↓
8			"	+	-	+		↓	↓	↓
9			"	+	-	+		↓	↓	↓
0			"	+	-	+		↓	↓	↓

poor readings
mold

weak
recomb.

weak

very
weak

very
weak

weak

very
weak

2 col

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behaves as *compd. Lac* !

REF:

	1	2	3	4	5	6	7	8	9	10
	Typing of 5-20 and 5-27				Ara -	Sgs.	mB _{lac}			
		w3834	w4358	w4362				w3836	w4358	w4362
4	w4265	-	+	+						
5	w4362	+	+ strong	-						
6	5-20 ₁	-	+	-			5-57 ₁	-	+	+
7	2						2			
8	3						3			
9	4						4			
0	5						5			
	etc						etc			
1										
2										
3										
4										
5										
6										
7										
8										
9										
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
0										
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8										
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4										
5										
6										
7										
8										
9										
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
0										

4 colonies may be seen in 5-57
 5-57 has 4 colonies

not significant --

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REF:

	1	2	3	4	5	6	7	8	9	10
1	5-5 recombinants									
2										
3					EMB-Lac			EM-Ara-B ₁		
4										
5			W3229	W3836	W4361	W4362		W4163	W4068	W4069
6			-	-	+	-		Ara +		
7	5-5	1			+			-(few)	+	+ weak
8		2			+			+	-	+
9		3			+			+	-	+
0		4			+			+	-	+
1		5			+			- few	+	+ weak
2		6			+			+	-	+
3		7			+			+	-	+ very weak
4		8			+			-	+	+ weak
5		9			+			+	-	+
6		10			+			-	+	+ weak
7		11			+			+	-	+
8		12			+			+	-	+
9		13			+			- few	+	+ weak
0		14			+			+ weak	-	+
1		15			- (few pp)			-	-	-
2		16			+			+	-	+
3		17						+	-	+
4		18						+	-	+
5		19						Ara	+	+
6		20						+	-	+
7		21						+	-	+
8		22						+	-	+
9		23						Ara	+	+
0		24						+	-	+
1		25						+	-	+
2		26						+	-	+
3		27						+	-	+ weak
4		28						-	+	+
5		29						+	-	+ weak
6		30						+	-	+
7		31						+	-	+
8		32						Ara	+	+
9		33						-	+	+ very weak
0		34						-	+	+ weak
1		35						-	+	+
2		36						Ara	+	+
3		37						-	+	+ very weak
4		38						-	+	+ weak
5		39						+	-	+
6		40						+	-	+ weak
7		41						+	-	+
8		42						+	-	-
9		43						Ara	+	+
0		44						+	-	+
1		45						-	+	-
2										
3										
4										
5										
6										
7										
8										
9										
0										

recombinant
H x B



From
W3229
W3836
W4361
W4362
W4163
W4068
W4069



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REF:

	1	2	3	4	5	6	7	8	9	10	
1	5-20 isolates from the Ana (see expts. 40 mch. 58)										
2				he ^o	he ⁺	he ^o					
3				w3836	w4358	w4362					
4				↓							
5	5-20 #41	lgt			-	+	-		same		
6		"				+	-				
7		"				+	-				
8		"				+	-				
9		dark				+	-				
0		"				+	-				
1		"				+	-				
2		"				+	-				
3		#21	lgt			+	-				
4		"	"			+	-				
5		"	"			+	-				
6		"	"			+	-				
7	didn't grow well	dark				no test	-				
8		"				+	-				
9		#26	lgt		+	-					
0		"	"		+	-					
1		"	"		+	-					
2		dark			+	-					
3		"			+	-					
4		"			+	-					
5		"			+	-					
6											
7											
8				all he ^o							
9											
0											
1											
2											
3											
4											
5											
6											
7											
8											
9											
0											
1											
2											
3											
4											
5											
6											
7											
8											
9											
0											

! + mostly he^o he^o
 1 case he^o No! Above + was artefact.

Reversions? and rearrangements in 5-57.

50-0

19

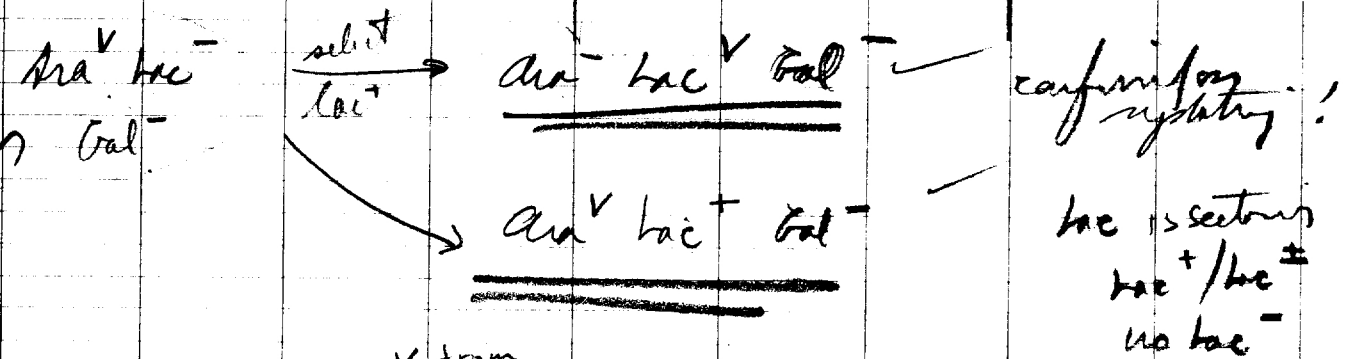
REF:

Sing. col of Lac Reversions of 5-57 were streaked on B Lac, B Ara

	1	2	3	4	5	6	7	8	9	10
1										
2										
3										
4										
5						B Lac		B Ara		
6										
7	5-57-1 light	Lac Rev	a		+			-		
8			b		+, -, v			-		but "segregating"
9			c		+			-		
10										
1	5-57-2 dark	Lac Rev	d		+			+		-, -, v
2			e		+			-		-, -, v
3			f		+			+		-, -, v
4			g		+			+		-, -, v

5-57 is lac⁻ Ara^v, which facilitates m/c to give two kinds of lac^v or Lac⁺:

- (1) are pure lac^v (mostly Lac⁺ & lac⁻ sectors) but better
- (2) ara^v (ara⁺ & ara⁻ sectors), lac⁺ mottled.



E₁₀⁺ 50 P = v from 5-57-1 b and 5-57-2 a on Gal, Lac, Ara from Lac and from Ara

both had Ara^v, two types found.
 ara^v lac^{-v} (light on B Ara).
 ara^v lac^v (+/-)

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REF:

	1	2	3	4	5	6	7	8	9	10	
	5-57 isolates from E50-0										
1											
2		B - Gal				B - Lac			B - Ara		
3	1-b	-, 2 colony types,				+, -, v			-, 2 colony types,		
4	from lac	smaller one "segregating"							darker one "segregating"		
5		(darker)									
6	from Ara	ditto				ditto			ditto		
7											
8											
9											
0											
1	2 a	as above; larger type				strong and weak +			+ and 2 - types;		
2	from lac	also "segregating" ?				we strong type			the + and darker -		
3						"segregating"			"segregate"		
4	from Ara	ditto				+ "segregating"			ditto		
5											
6											
7											
8											
9											
0											
1											
2											
3											
4											
5											
6											
7											
8											
9											
0											
1											
2											
3											
4											
5											
6											
7											
8											
9											
0											

Dec. 23, 58

REF:

	1	2	3	4	5	6	7	8	9	10
1	= Parents X Parents and Lac Testers on complete medium									
2	(B Lac)									
3				Lac ^D			ignore		ignore	
4							= Lac [±]			
5				W3229	W3836	W4358	W4359	W4360	W4361	W4362
6										
7	F-Lac ⁻ Prots.	W4147		+ se	-	+	-	+	+	+
8	streak also	♀ Parent	W4265	-	-	+	-	+	+	+
9	→		W4358	+	+	-	-	+	+	+
10		Lac [±]	W4359	+	+	-	-			
1			W4360	+	+	+	-	-	-	+
2			W4361	+	+	+	-	-	-	+
3			W4362	-	+	+	-	+	+	-
4										
5										
6										
7										
8										
9										
10										
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

streak also

leuc test

coater test

$\left. \begin{matrix} P^- \\ H/2 \end{matrix} \right\} \begin{matrix} 4265 & 4362 \\ 3836 & \end{matrix}$

W3229

S-series

all these are \neq 4265

W4359 is poorly readable as it ferments somewhat.
W4360 and 61 behave so =.

only W4362 in this series may be \cong 4265

* Upon streaking of doubtful + areas, there are +s (low proportion in 4265/4362).

+

Dec. 26 1958

REF:

1 Ara V # 5's (= w4362 ♂ parent) tested for Lac types.
 2
 3
 4 EM13 Lac →

	1	2	3	4	5	6	7	8	9	10
6	♀ parent	w4265	-	-	+	+	+			
7	♂ parent	w4362	+	+	+ strong	+ strong				
8		5-5	↑ sic!	↑	+	+				
9		5-13			+ weak					
10		-14			+					
1		-15			+ weak					
2		-20			+					
3		-21			+					
4		-27			+ weak					
5		-11			+					
6		-34			+					
7		-57			+					
8		5-20 Ara- say			+		↓ strong			
9							↓ strong			
10										

♀ 1- x+
 ♂ 1- x- assume these are hemizygotes for the chromosomal.

Test on EM Lac unreadable.