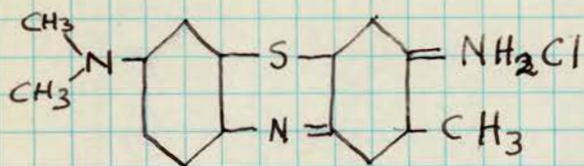
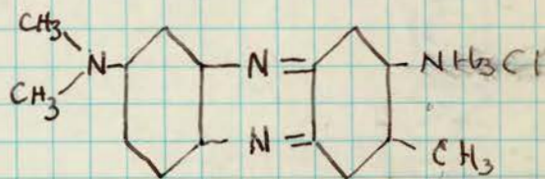


# Role of Thio linkage in Compounds in relation to blocking by antibody

TOLUIDINE BLUE O

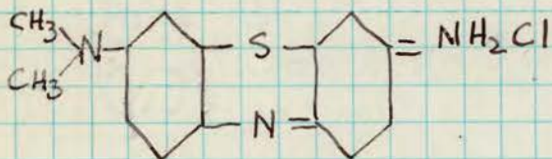


NEUTRAL RED

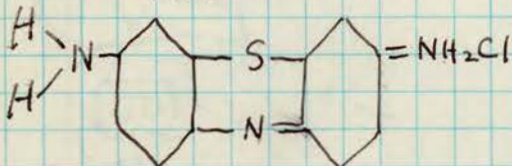


Azin

AZURE A

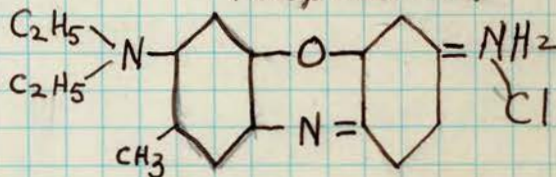


THIONIN

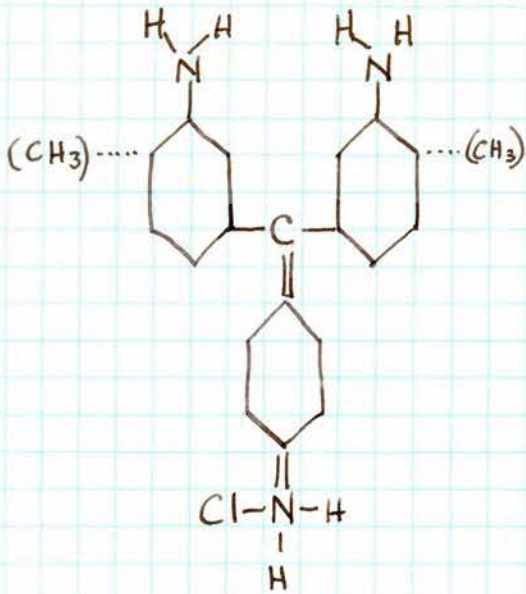


Thiazin

Brilliant Cresyl Blue  
(Cresyl blue 2RN)

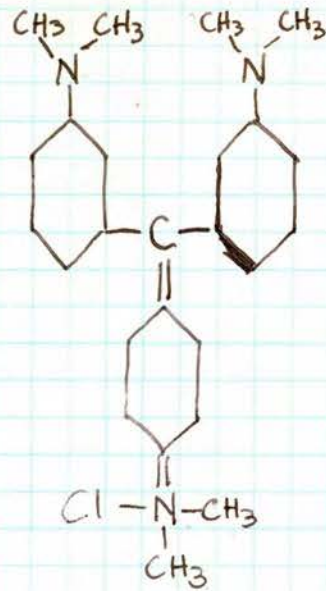


Oxazin



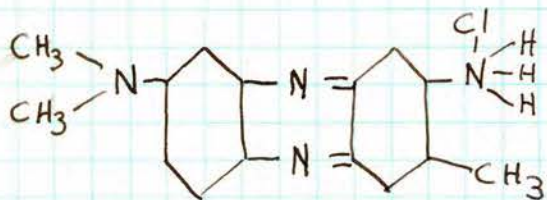
BASIC FUCHSIN

↓  
NO STAINING OF  
 NORMAL TOXOPLASMA



CRYSTAL VIOLET

↓  
DEEP STAINING OF (0.5%)  
NORMAL TOXOPLASMA



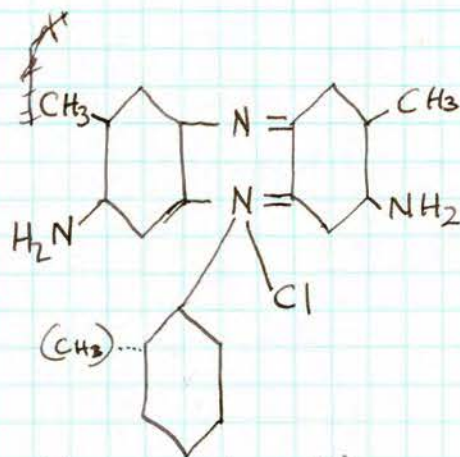
NEUTRAL RED



Stains normal toxoplasma  
 cytoplasm - red  
 chromatin - faint or neg.

Complete antibody treated toxoplasma

Cytoplasm - unstained  
 Chromatin - red



SAFRANIN (Y)

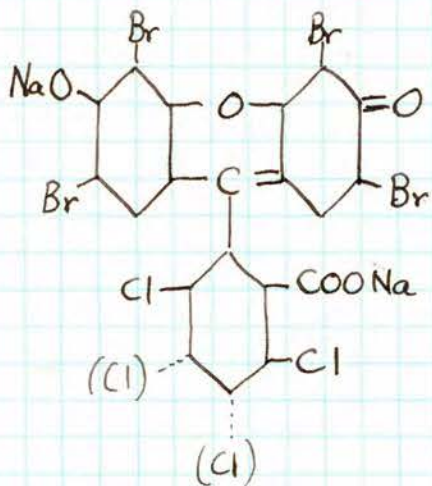


Normal toxoplasma (with few except.)

Cytoplasm - unstained  
 Chromatin - "

Complete antibody-treated toxoplasma

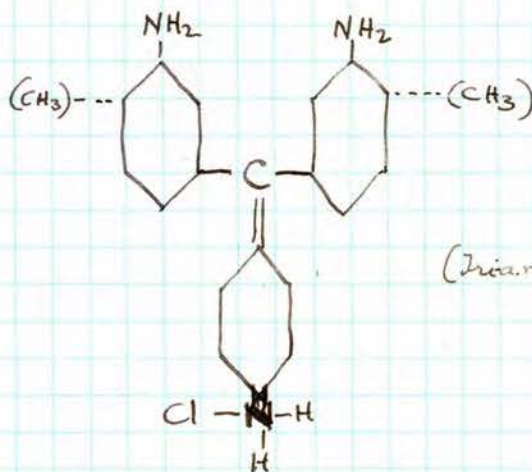
Cytoplasm - orange red  
 Chromatin - deep red.



Phloxine (xanthene group)

Normal toxoplasma  $2\frac{1}{2}$   
 Cytoplasm } Unstained  
 Chromatin }

Complete antibody treated toxoplasma  
 Cytoplasm - red (granular)  
 Chromatin - unstained



(Triaminio, tri-phenyl  
 in here)

BASIC FUCHSIN



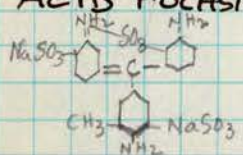
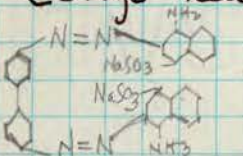
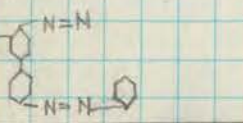
Normal toxoplasma (few exceptions)

Cytoplasm } unstained  
 Chromatin }

Complete antibody-treated toxoplasma

Cytoplasm - red (granular)  
 Chromatin - unstained

6/23/48  
JUN 23 1948

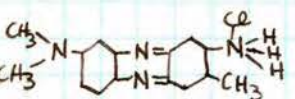
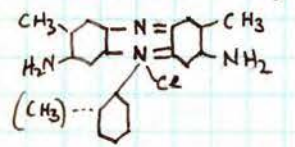

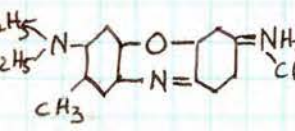
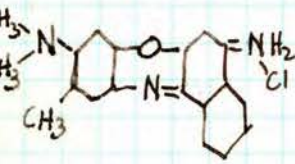
DYE	Concentrat. %	Time	TOXOPLASMA + NORMAL SERUM			TOXOPLASMA + IMMUNE SERUM		
			TOXOPLASMA		LEUKOCYTES	TOXOPLASMA		LEUKOCYTES
			CYTOPLASM	CHROMATIN		CYTOPLASM	CHROMATIN	
Basic Fuchsin	0.5	Imm.-20 min.	Unstained with rare exception	Unstained with rare exception	Unstained rare exception	Red	Not well defined	Many nuclei stained
	<del>0.5</del>	90 min.	Many are stained Some partially Some unstained		Many stained	"	"	"
Acid Fuchsin 	0.5	Imm.-2 hrs.	Unstained greenish hue?	Unstained greenish hue?	Unst.	Unstained greenish hue?	Unstained greenish hue?	Unstained
Congo Red 	0.5	Imm.-2 hrs.	Unstained Many vacuoles Some granules of uncertain color if any	Unstained	Unst.	Unstained Many vacuoles + some granules of uncert. color	Unst.	Unst.
Brilliant Vital Red 	0.5	Imm.-2 hrs.	"	"	Some with red granules	"	"	Some red granules
Trypan Red	0.5	" "	"	"	Unst.	"	"	Unst.

Note - Ziehl-Nielsen Carbol Fuchsin stained  
both "normal" + "immune" toxo immediately

Basic Fuchsin - Had to be filtered for use.

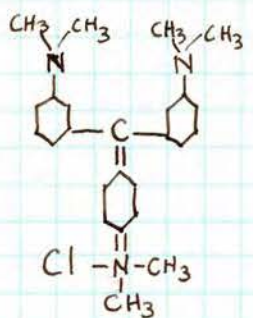
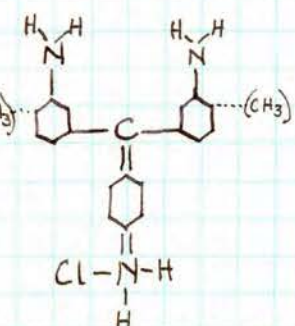
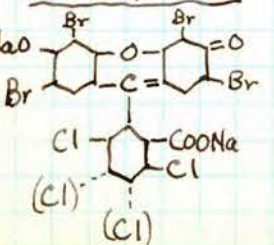
JUN 21 1948

# Effect of Aqueous Solutions of Certain Dyes on Toxoplasma in Normal and Immune Serum Mixtures

DYE	Concentration %	Time after addition to Toxoplasma	TOXOPLASMA + NORMAL SERUM			TOXOPLASMA + IMMUNE SERUM		
			EFFECT ON TOXOPLASMA		Leukocytes	EFFECT ON TOXOPLASMA		Leukocytes
			CYTOPLASM	CHROMATIN		CYTOPLASM	CHROMATIN	
<u>NEUTRAL RED</u> 	0.5 <i>(ce. ppt on addition of two)</i>	IMMEDIATE	Varying degrees of red against light background. Most crescentic + oblong; some round	Not well visualized	Both cytop. + nuclei unstained	Colorless	Deep red	Unstained
		90-100 min	Stained red; gran.	Faint	"	Colorless	Deep red	"
<u>SAFRANIN (Y)</u> 	0.5 <i>(no ppt.)</i>	Immediate	Unstained	Unstained	Nuclei deep red; cytopl. negative	Faint?	Deep red	- -
		75-150 min	UNSTAINED with few exceptions, thru 	Unstained, except few	"	? Orange red	Deep red	- -
<u>Brilliant Cresyl Blue</u> 	0.5 <i>(no ppt.)</i>	Immediate	Varying degrees of blue depending on number of granules stained. Majority rounded	Faint or not at all	- -	Unstained (crescentic)	Unstained	- -
		100 min.	Deep blue	Faint or not at all	- -	Unstained	Unstained	- -
<u>CRESYL VIOLET</u> 	0.22 <i>(no ppt.)</i>	Immediate	Varying granular; intracellular deeper	Faint		Unstained	Unstained	
		80 min	Few deeply stained many faint; some unstained	"	"	"	"	"

# Effect of Aqueous Solutions of Dyes

JUN 21 1948

Dye	Concentration %	Time after addition to Toxoplasma	TOXOPLASMA + Normal SERUM		TOXOPLASMA + IMMUNE SERUM		LEUKOCYTES	
			EFFECT ON		EFFECT ON			
			TOXOPLASMA CYTOPLASM	CHROMATIN	TOXOPLASMA CYTOPLASM	CHROMATIN		
<b>CRYSTAL VIOLET</b> 	0.5	Immed.	unstained	unstained	light violet	deep violet		
	(sp. ppt <sup>3</sup> on addition to toxo)	5 min.	Intense violet	Difficult to see because of overstain	light violet, but appears different from normal	" "		
		80 min.	Overstained - espec. dark periphery	Occasionally seen as deep-stained ball	as above, <del>+</del> periphery not stained at all	" "		
	0.25 (no ppt)	Immed.	Unstained	Unstained	Unstained	Unstained		
		10-15 min.	Some stained others slight	Some stained others not	"	"		
		75 min.	Some staining → but not marked	"	Faint staining seen under oil	"		
<b>BASIC FUCHSIN</b> 	1% (sl. ppt)	Immed.	Unstained	Unstained	Red - granular	Unstained		
		40 min.	Unstained with occasional exception staining	"	Somewhat more intense red	Essentially unstained		
	0.5% (no ppt)	Immed.	Unstained	Unstained	Red tint	Unstained		
		40 min.	Unstained with occasional exception	"	" "	"		
<b>Phloxine</b> 	2.5% (no ppt)	Immed.	Unstained	Unstained	Unstained	? (background too red)	Unstained	Unst.
		30 min.	"	"	"	Staining - red can be seen under oil	Unstained	"