Title: Qualitative Organ	rie Chemistry.	, t - , a
Aim: To identify the el	lements present in to functional group	an organic compour
Experiment	Observation	Inference
1. Soda lime test: Heat substance and soda lime (1:2) in a test tube.	Smell of NH3: (a) turns red litmus blue	Nitrogen is presen
1 13pA = 200104 C- 13a14	(b) turns mercurous nitrati	
2. Lassaigne. 's Test:	S. OLLOW C	and a second deci
substance with a free-sixe, metallic solution in a	ard + Doug to	elo + relative by
fusion tube. Heat gently at first, then strongly. Extract the melt with distilled	E + DAIAG + I	A HAR HOLD TO
water and filter.	1 dans 1	

1. CH3CONH2 + NAOH CAO CH3COONA + NH3/1

		1
Experiment	Observation	Inference
		J
a) To 5 ml of filtrate, add 2-3 drops	Blue / green précipitate	Nitrogen present.
of NaOH, 1-2 drops of FeSO, and	or colouration	
boil. Add 2-3 drops of Fellz and	(prussian blue)	The the time
acidity with HCI.	a religion of the	1 (0)
1 14 to 11 12 1700	119 + HBHUT IT	Tier chice
b) To a part of fit filtrate, add	Violet precipitate	Sulphur present
fresh solution of sodium nitroprusside.	14)	1 1
To another part, acidify with acetic	Black precipitate	Sulphur present
acid and add lead acetate solution	A CONTRACTOR OF THE PARTY OF TH	1 - 1 - 1 - 1
to the second se	THE RESERVE	1
To a 2 ml solution of filtrate, add	is Curdy white precipitate	is Chlorine present
dil. HNO, and boil for a few minutes.	1 V 1 1	1
Cool and add AgNOz solution.	- HOACH ALD HI	present.
	<u> </u>	
d) To a 2 ml of filtrate add H2504, then	is Organic layer turns	Iodine present
few drops of fresh chlorine water	yellow violet.	
and 2 ml of CHC13 or CC14 or CS2	iis Organic Layer turn	Bromine present
and shake well.	Yellow	,
If the organic layer is reiolet, add		
more chlorine water and shake well	Organie Layer turns	Iodine and Bromine
until colour is discharged	yellow	both present
<u>Krester</u>	Teacher's Signature :	

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a) Na + C + N \longrightarrow Na CN \longrightarrow Na₄ [Fe (CN)₆] + Na₂ SO₄

Na₄ [Fe (CN)₆] + Fe³⁺ \longrightarrow Fe₄ [Fe (CN)₆]₃

(prussian blue)

Na2S + (CH3COO)2Pb -> 2CH3COONA + PBSt (Hack)

(eurdy yellow)

Ag NO3 + NaBr → NaNO3 + Ag Br I

(eurdy yellow)

(d) 2 NaBr + C12 -> 2NaCl + Br2

(yellow colouration)
of organic layers | tell det room |

2 Na2 + Cl2 -> 2 NaCl + I2 lettlich them est (violet colouration) bour melicul of organic layer)

Experiment	Observation	Inference
3. Test for - COOH group:		
2) Test a little of the samp	le with blue Blue litmus turny	red
	and the second s	e 1
	mple in water, Effervescence wi	1
add solid or aqueous so	olution of evolution of eog	
NaH Coz, small quantity	at a time.	
4. Test for Phenolic - OH grow	ip: (6 Reddish colouration	
Dissolve the substance in w	pater or alcohol precipitate.	carboxylic ac
and add a drop of FeClo	solution (ii) Green, blue or &	iolet ii) Phenolie -
	Edouration	group prese
5. Test for Esten group:	Mark 19	0.40
Add two beads of Nath to a	while of the	- COOR gr
cample in water. minimum	0	present,
water and boil for a	D Warren	
Cool and then acidify	with	
dilute HCI.		
		1 1 1 1 1 1 1 1 1 1

3. b) CH3-COOH + NAHCO3 -> CH3-COONA + H20 + CO21

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are a first pergent to be girl for equal to a black

4. i) CH3 COOH + NH4OH -> CH3 COONH4 + H2D

3 CH3 COONH4 + FeCl3 -> (CH3COO)3 Fe + 3 NH4Cl

(red colouration)

4. (ii) OroH + Fects -> Hel + Orofecto

5. CH3 COO CH2 CH3 + NaOH → CH3 COONA + CH3 CH2 OH

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through winded to delight while parties lake startly to while to the

xpt. No	o	Page No6	
	Experiment OCHE + 1511= A-(1) . 21	Observation 1 11	Inference
5.	Test for Carbonyl group: 2,4-DNP test - To a small portion of alcoholic solution of the substance or to a small amount of the	Orange or red precipitate.	Carbonys gro present (>C=0 or -C
	sample, add minimum quantity of glacial acetic acid, warm till clear solution appears. Then add 2 ml of standard solution of 2,4-dinitrophenyl hydrazine.		
	for few minutes. Allow to cool. If no precipitate appears, add 2 drops	- HONLA I.	4029 (0)
	five minutes again and seratch inside of the test tube with a	OUH FIGH	100 A W

6. $CH_3 - C - CH_3 + O_2N - O_2N -$

	Experiment	Observation	Informe
4	Test for primary amine:	1711	1, P
	Diazo reaction - Add a pinch of	4 mmediately brilliant	-NH2 group
	Nanoz to a well cooled HCI	scarlet or red	present
	solution of the sample. Then pour	precipitate appears.	+ Deat
	a little of dia Fotised volution	110	
	into excess of cold alkaline.	100 1 105 (5) +	DMEN(O)
	solution of B-napthol.	01-12-114 (0)	
	The species		
8.	Test for amide group:	eliid	III
	(i) Heat 0.5 g of the sample with	is Smell of NH3 - which	
	2 ml 50% NaOH solution	turns Hg (NO3)2 paper	100
	0,40 + CM-4-(0)	thack black	- CONH2 grow
	in Treat a little of the agreous	ii, No gas evolves	present
	solution of the sample with a		MENTO
	few drops of cold solution of HNO, (HCI and NaNO2).	1 (3)	
	HNO, (HCI and NaNO2):		

Experiment O>NH2 + HONO 243-278K $\frac{dil. Na oH}{O} = 0$ $\frac{dil. Na oH}{O} = 0$ Scarple, and minimum purply of glored autic acid, warm till oben solution brokents for and I will structured assurbed throughouthing the to work producers 8. (1) RCONH2 + NOOH R COONA A NH3 Town potting extents for four orientes. Allow to cool if no procipilate appears, add 2 drops of core 1250g. Down for about (i) R CONH2 + HNO2 RCOOH HENRY HOUNEN SHIP isside of the tist tube with a

Expt. No	~	Page No	8
	Experiment	Observation	Inference
9	Tak for substituted amide (avilide):		
	Test for substituted amide (anilide): Hydrolyse 50 mg of the sample	Immediate builliant	Substituted amide
	by boiling with 5 ml of conc.		(RCOM (- CONHR)
	minutes, cool, dito dilute with	precipitate.	group present.
	water and perform diazo reaction		
do.	Test for nitro group:		
	Warm gently a little of the	îmmediate	-Noz group is
	cample with a few pieces of	brilliant scanlet or red precipitate	1
	metallie tin and 5 ml of conc. HCI till the reaction is complete	30 000	t man production
Significant of the second of t	Cool, filter if necessary and then		
-	Perform this test when -NH2		
	and R-CONH-Ar group wie		
	absent.		

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Teacher's Signature : ____

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$$\begin{array}{c} O \\ \hline O \\ \hline N \equiv NCI \\ \hline \end{array} + \begin{array}{c} O \\ \hline O \\ \hline \end{array} \begin{array}{c} dil. \ NaOH \\ \hline O \\ \hline \end{array} \begin{array}{c} O \\ \end{array} \begin{array}{c} O \\ \end{array} \begin{array}{c} O \\ \end{array} \end{array} \begin{array}{c} O \\ \end{array} \end{array} \begin{array}{c} O \\ \end{array} \begin{array}{c} O \\ \end{array} \begin{array}{c} O \\ \end{array} \begin{array}{c} O \\ \end{array} \end{array} \begin{array}{c} O \\ \end{array} \begin{array}{c} O \\ \end{array} \begin{array}{c} O \\ \end{array} \begin{array}{c} O \\ \end{array} \end{array} \begin{array}{c} O \\ \end{array} \begin{array}{c} O \\ \end{array} \begin{array}{c} O \\ \end{array} \begin{array}{c} O \\ \end{array} \end{array} \begin{array}{c} O \\ \end{array} \begin{array}{c} O \\ \end{array} \end{array} \begin{array}{c} O \\ \end{array} \begin{array}{c} O \\ \end{array} \begin{array}{c} O \\ \end{array} \end{array} \begin{array}{c} O \\ \end{array} \begin{array}{c} O \\ \end{array} \end{array} \begin{array}{c} O \\ \end{array} \begin{array}{c} O \\ \end{array} \begin{array}{c} O \\ \end{array} \end{array} \begin{array}{c} O \\ \end{array} \begin{array}{c}$$