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Expt. No. ________ Page No. ________

Haloalkane and Haloarene Reasoning.

① Thionyl chloride is preferred ~~to form~~ alkyl chloride why?

② The reactions of Primary and Secondary alcohols with HCl require the presence of catalyst, $ZnCl_2$ but with 3° Alcohol doesn't why?

③ The order of reactivity of alcohol with given halo acid (HI, HBr, HCl) will be?

④ phenol doesnt give aryl halide with reaction of HX. why?

⑤ HOW can we detect double bond in a molecule. (Test for unsaturation)

⑥ What is the acetone in Finkelstein

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9. Can ortho and para isomers be sebarated when they are formed by reacn of toluene with Cl_2/Fe dark.

10. Reaction of I_2/Fe(dark) with Benzene needs oxidising agent like HNO_3 or HIO_3 why?

(11) Fluoro combounds cannot be formed by reacn of F_2/Fe dark why?

12. Fact:→ Alkyl Halides are colourless when pure. However, bromides and iodides develop colour when exposed to light.

13. Fact:→ Many volatile halogen compounds have sweet smell.

P.T.O →

14. Why is sulphuric acid not used during the reaction of alcohols with KI.

15. Boiling Point of chlorides, Bromides and iodides are higher than the hydrocarbons of comparable molecular mass.

16. Boiling Point of alkyl halide decrease in the order of R-I, R-Br, R-Cl, R-F. Why?

17. Normal-Butyl Bromide, 2° Butyl Bromide, 3° Butyl Bromide (arrange B.P).

18. The para-dichlorobenzene has ↑er melting point as compared to their ortho & meta isomers.

19. Density of alkyl halide decreases in the order of ($CCl_4 > CHCl_3 > CH_2Cl_2$).

20. The haloalkanes are very slightly soluble in water. Why?

=OR=

Alkyl halides, though polar, are immiscible with water.

21. Haloalkanes are soluble in organic solvent. Why?

22. Bromoethane, Bromoform, chloromethane, dibromo-methane (arrange B.P).

23. 1-chloro propane, Isopropyl chloride, 1-chloro butane (B.P).

24. what is ambidente nucleophile? give 2 examples.

25. Haloalkanes react with KCN to form alkyl cyanides as main product. while AgCN forms isocyanide. Why?

26. with $AgNO_2$, haloalkanes give nitro-alkane but alkyl nitrites with KNO_2. Why?

27. write important features of SN_2 mechanis

28. write imp. points of SN_1 mechanism.

29. HI/HBr/HCl (reactivity in SN_1 & SN_2 mechanism)

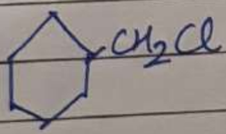
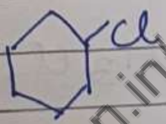
Expt. No.______ Page No.______

30. 1°, 2°, 3° (Haloalkanes / SN_1 & SN_2 mechanism).

31. SN_1 reactions are generally carried out in polar protic solvent like water. Why?

32. Alylic & Benzylic halides show ↑ reactivity towards SN_1 reaction why.

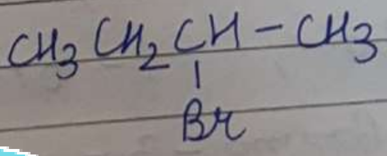
33. Which is more reactive in

(a)  & 

(b) $CH_3CH_2CH_2CH_2I$ & $CH_3CH_2CH_2CH_2Cl$

(c) 4 isomeric Bromo butanes (SN_1 & SN_2 both)

(d) $C_6H_5CH_2Br$, C_6H_5CH (C_6H_5Br), $C_6H_5CH(CH_3)Br$, $C_6H_5C(CH_3)(C_6H_5)Br$ {SN_1 & SN_2 both}.

34. (a) 2 $CH_3CH_2CH_2CH_2Br$ &  $CH_3CH_2\underset{Br}{\underset{|}{C}}H-CH_3$ (SN_2).

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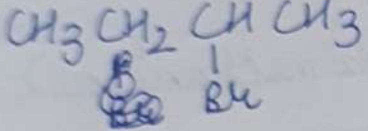
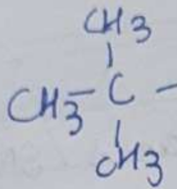
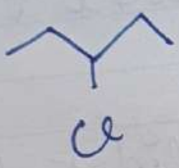
(b) 
$CH_3CH_2CH(Br)CH_3$ & 
$CH_3-C(CH_3)_2-Br$ (S_N2)

(c)  and  (S_N1)

d.  and  (S_N1)

e. CH_3Br or CH_3I (S_N2)

f $(CH_3)_3CCl$ or CH_3Cl (S_N2)

35. ⓐ 2-bromo-2-methylbutane, 1-Bromopentane, 2-bromopentane

ⓑ 1-bromo-3-methylbutane, 2-Bromo-2-methylbutane, 2-Bromo-3-methylbutane.

ⓒ 1-bromobutane, 1-Bromo-2,2-dimethylpropane, 1-bromo-2-methylbutane, 1-Bromo [illegible]tylbutane.

36. The treatment f alkyl chloride with aq KOH leads to the formation f alcohols but in the Presence f alc. KOH, alkenes are major product explain.

37. out f $C_6H_5CH_2Cl$, $C_6H_5CHClC_6H_5$, Which is more easily hydrolysed by aq. KOH.

38. Give the uses f Freon-12, DDT, Carbon tetrachloride and iodoform

39. Grignard reagents Should be Prepared under anhydrous conditions

40. The dipole moment of Chlorobenzene is lower than [illegible] of Cyclohexyl Chloride w[illegible]

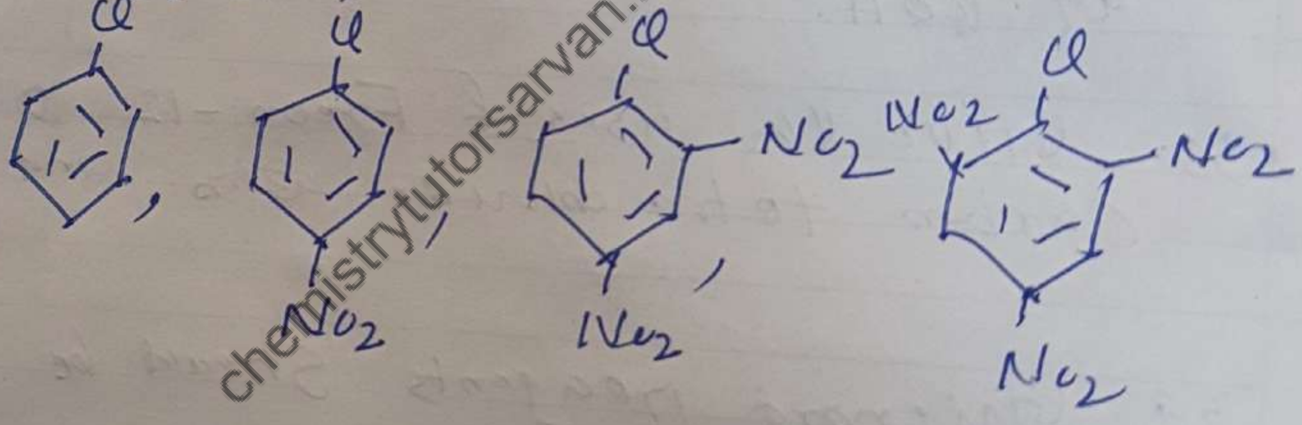
(46.) What is Saytzeff rule.

41. Although clorine is an e^- withdrawing grp yet it is ortho-Para directing towards electrophilic Substitution rxn. why?

42. Halogens are deactivating grp towards electrophilic substitution rxn. why?
Give 4 reasons of :-

(i) Haloarene doesnt give nucleophilic Substitution reaction.

43. Arrange reactivity towards nucleophilic substitutn rxn why?



44. Presence of e^- withdrawing group at ortho & Para positions of Chlorobenzene ↑ the reactivity towards nucleophilic Substitution rxn.

45. What is the ef [illegible]
Chlorobenzene to [illegible] eactivity of
[illegible] cleophilic

10. SN1 takes place via racemisation (inversion & retention both).

Polyhalogen compound

1. What is the molecular formula and structure & uses of :

(a) dichloromethane (methylene chloride)
(b) chlorofoam
(c) Iodoform
(d) CCl_4
(e) freons
(f) DDT.

2. Chlorofoam is stored in dark coloured bottles. Why?

Substitution rxn, when NO_2 is present at meta position:

OPTICAL ACTIVITY OF HALOARENES.

1. What doyou mean by optical activity of a compound.
2. Types of optically active compound.
3. What are optical isomers (enantiomers).
4. What is the criteria for optical activity.
5. What is chiral carbon. (asymmetric carbon).
6. What is racemic mixture.
7. What is racemisation.
8. What is retention & inversion.
9. SN_2 takes place [illegible] version why?

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