Question bank

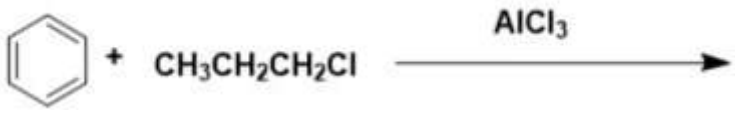
1.	which of the following is the non benzoid polynuclear A) Azulene B) Anthracene C) Naphthalene D)Biphenyls	A
2.	…….. resonance structure of Anthracene is possible? A) 1 B) 2 C) 3 D) 4	D
3.	Formation of decaline from the naphthalene is occur through following reaction A) Oxidation B) Reduction C) Chlorination D) Nitration	B
4.	Friedal craft acylation of Naphthalene form 2-acetylnaphthalene via use of following reagents A) Acetyl chloride, Carbon disulfide, AlCl3 B) Acetyl chloride, Nitro benzene, AlCl3 C) Carbon disulfide, AlCl3 D) Acetyl chloride,AlCl3	B
5.	Phthalic acid from naphthalene can be form by using of following reagents A) $KmnO_4$, O_2 B) Cr_2O_7 C) $C1_2$, O_2 D) None of above	A
6.	Arenes does not undergoes ……. reaction A) Dehydrogenation B) Coupling reaction C) Halogenation D) Cycloaddition	A
7.	Formation of 9,10 Anthraquinone from Anthracene is occur through following reaction A) Oxidation B) Reduction C) Chlorination D) Nitration	A
8.	Formation of 9,10 when Anthraquinone from phenanthrene is occur through following reaction A) Oxidation B) Reduction C) Chlorination	A

	D) Nitration	
9.	Triphenylmethane soluble in A) Benzene B) Methanol C) Ethanol D) Acetone	A
10.	Upon Oxidation, Diphenylmethane gives A) Acetophenone B) Benzophenone C) Diphenylmethyl bromide D) Benzyl Chloride	D
11.	Chemical formula for Naphthalene is A) C6H6 B) C8H8 C) C10H8 D) C12H10	C
12.	The acidity of aromatic acids is due to A) Accept a proton B) Donate a proton C) Donate a election pair D) Donate -oh ions	B
13.	In aromatic acids electron withdrawing group _____acidity A) Increases B) Decreases C) Both of above D) None of these	A
14.	In aromatic acids election donating group _____Acidity A) Increases B) decreases C) Both of above D) All of above	B
15.	Which of the following group increase acidity of aromatic acids? A) -CH3 B) -OCH3 C) -NH2 D) -Cl	D
16.	which of the following group decreases acidity of aromatic amines A) -NO2 B) -CN C) -OCH3 D) -Cl	C
17.	Which of the following is quantitative test for aromatic acids	D

	A) Litmus Test B) Bicarbonate test C) esterification test D) all of above	
18.	_____Substituents at Ortho of benzoic acid increases acidity A) Electron withdrawing B) Electron donating C) both of these D) None of above	C
19.	Which of the following aromatic acid has dicarboxylic acid in structure? A) Salicylic acid B) Anthranilic acid C) Phthalic acid D) Benzoic acid	C
20.	The basicity of aromatic amines is due to its ability to _____. A) Accept proton B) Donate proton C) Accept electron pair D) Do not -OH ions	A
21.	Aromatic amines are _____basic than aliphatic amines because nonbonding electron is delocalized into the benzene ring by resonance A) More B) Less C) Equal D) None of above	D
22.	In aromatic amines electron withdrawing group _____basicity A) Increases B) Decreases C) Both of these D) All of above	B
23.	In aromatic amines electron donating group _____basicity A) Increases B) Decreases C) Both of above D) All of above	A
24.	Choose the correct order of increasing basicity of aromatic amines A) Aniline < O-niroaniline < p-toluidine B) p-toludine < Aniline <O-nitroaniline C) O-niroaniline <Aniline < p-toluidine D)Aniline < O-niroaniline >p-toluidine	C
25.	Which of the following group does not increases basicity of aromatic amines? A) -CH3	D

	B) -OCH3 C) -NH2 D)-Cl	
26.	Which of the following group increase basicity of aromatic amines A)-No2 B) -CN C) -OCH3 D)-Cl	C
27.	What is the resonance energy of Anthracene? A) 36kcal /mol B) 61kcal/mol C) 84kcal/mol D) 92 kcal/mol	C
28.	aromatic amine such as aniline exhibits a ……. effect due to ……. present on the nitrogen. A) +R, polar e^- B) -R, lone pair e^- C) +R, lone pair e^- D) -R, polar e^-	C
29.	Bulky substituents at ortho position in aniline may cause the loss of ……. of -NH2 group. A) Aromaticity B) planarity C) Polarity D) Both A and B	B
30.	In the case of 2,4,6-trinitroaniline, no steric hindrance is observed because of A) +R effect B) -R effect C) -I effect D) +I effect	B
31.	Inductive effect, which depends upon the position of the substituent and is experienced in the order A) meta > ortho > para B) ortho > meta > para C) para > meta > ortho D) Both A and C	B
32.	The -R effect of nitro group is observed maximum at……. positions. A) ortho B) para C) meta D) Both A and B	D
33.	In the aromatic carboxylic acids, the carboxylic group is attached to ……hybridized carbon	B

	A) sp B) sp2 C) sp3 D) sp2-sp2	
34.	The aromatic carboxylic acids exhibit polarity due to presence of A) polar carbonyl group B) Acidic group C) hydroxyl group D) Both A and C	D
35.	2- hydroxybenzoic acid also known as A) Salicylic acid B) Cinnamic acid C) Picric acid D) Crotonic acids	A
36.	The acidic strength of aromatic carboxylic acid is attributed to resonance stabilization of carboxylate ion formed by the…. A) gain of proton B) gain of Electron C) loss of proton D) loss of Electron	C
37.	The high acidic strength of p-nitrobenzoic acid is due to ……. of nitro group A) only -I B) both -I and -R effects C) only -R D) both +I and +R effects	B
38.	The -OH group is electron withdrawing in nature due to …… effect but at the same time it exhibits a ……effect. A) +I , +R B) -I , -R C) –I , +R D) +I , -R	C
39.	…….is the largest single component of coal-tar about (6-10 percent). A) Naphthalene B) Diphenyl C) Phenanthrene D) Anthracene	A
40.	Pyrene is the example of …… compounds. A) Fused polynulear B) Isolated polynuclear C) directly polynuclear D) Non-benzenoid polynuclear	A
41.	All C-C bonds in benzene are identical and have the same bond length of.....	b

	a. 1.34 Angstron b. 1.39 Angstron c. 1.54 Angstron d. 1.36 Angstron	
42.	The resonance energy can be defined as a. energy of hybrid resonance structure b. difference in energy between hybrid and the most stable resonance structure c. energy of the most stable resonance structure d. energy of resonance structure	b
43.	Consider a case where a molecule is cyclic in nature with Pi bond lie within the cyclic structure, each atom in the cycle have pi orbital, exhibit planarity involve continuous delocalization of π electrons, completely conjugated and contain 8 pi-electron. Such a molecule is called to be a. Aromatic b. Anti-aromatic c. Not-aromatic d. Aliphatic	c
44.	What will be the product of the following reaction?  a. Propylbenzene b. Methylbenzene c. Isopropylbenzene d. Chlorobenzene	c
45.	Which of the following substituents act as an electron-withdrawing group via negative resonance effect when attached to Benzene ring a. Br b. CHO c. OH d. NO2	d
46.	Which of the following group is act as a strong activator for Benzene toward Electrophilic substitution reaction (ESR) a. OH b. CH3 c. Cl d. NO2	a
47.	The molecule must have _____ π electrons to be aromatic compound a. 2n+2 b. 4n+2 c. 6n+2 d. 8n+2	b
48.	Catalyst used in Friedel-crafts alkylation is a. Ammonium chloride b. Aluminium chloride c. Calcium chloride d. Sodium chloride	b
49.	Kolbe reaction is a characteristic reaction for	c

	a. Carboxylic acids b. Amines c. Phenols d. Alcohols	
50.	Reimer-Tiemann reaction is a characteristic reaction for a. Carboxylic acids b. Amines c. Phenols d. Alcohols	c
51.	In the mechanism of electrophilic aromatic substitution reaction, intermediate formed is a. Carbocation b. Carbanion c. Neutral d. Basic	a
52.	In the mechanism of electrophilic aromatic substitution reaction a. Ist step is rate determining step b. IInd step is slow step c. IInd step is rate determining step d. Ist step is Fast step	a
53.	Electron releasing group in an electrophilic aromatic substitution reaction a. Stabilizes Carbocation b. Destabilizes Carbocation c. Deactivates ring d. Do not have any effect	a
54.	Chloro group is a. Electron withdrawing by resonance effect b. Electron withdrawing by inductive effect c. Electron withdrawing by both inductive and resonance effect d. Electron donating by both inductive and resonance effect	b
55.	Chlorobenzene undergoes electrophilic aromatic substitution reaction to give a. Only para substituted product b. Only ortho substituted product c. Both para and ortho substituted product d. Meta substituted product	c
56.	……. can be used for Friedel–Crafts acylation a. acyl chloride b. aromatic chloride c. acid anhydride d. Both a and c	d
57.	Which of the following represents the best reagent(s) for the electrophilic nitration of benzene? H_2SO_4, SO_3 $NaNO_2$ HNO_3 H_2SO_4, HNO_3	d
58.	Which of the following statements is incorrect for aromatic compounds? Are planar Have $4n+2$ π-electrons	c

	Have 4n π-electrons Are cyclic	
59.	Chemically DDT is a. dichlorodiphenyltrichloroethane b. dichloroethane c. trichloroethane d. dichloropropane	a
60.	Kekule structure of benzene is …… evidence a. Synthetic b. Structural c. Analytical d. hypothetical	b
61.	The resonance energy of benzene is about …….. kcal/mol. a. 30 b. 32 c. 36 d. 38	c
62.	The rate-determining step of an electrophilic aromatic substitution reaction is a. formation of intermediate resonance stabilized carbocation b. formation of electrophile c. abstraction of electron d. abstraction of proton	a
63.	The carbon atoms are ……. hybridized in benzene and all of them lie in the same plane. a. sp2-sp2 b. sp2 c. sp2-sp3 d. sp	b
64.	Areneium ion formed when…… a. Electrophile attack b. Abstraction of proton c. Lewis acid attack d. both a and c	d
65.	Benzene is not straight chain form Confirmed from which unsaturation test a. Action of KMNO4 b. saponification test c. Bromine water test d. Both a and c	d
66.	Sulphonation of benzene requires "fuming sulphuric acid", which is sulphuric acid with extra ……..added. a. Sulfur oxide b. Sulfur dioxide c. Sulfur trioxide d. Sulfur monoxide	c
67.	Abstraction of proton from the carbocation to regenerate aromaticity is the reversible reaction in…… a. Halogenation b. Nitration	c

	c. Sulfonation d. Friedel–Crafts reaction	
68.	alkyl carbocation is generated as Electrophile in ……. a. Friedel–Crafts alkylation b. Friedel–Crafts acylation c. Niration reaction d. Both a and b	a
69.	Benzene undergoes reduction in presence of Nickel catalyst to produce …….and liberates Δ H=49.8KCal/mole energy a. Cyclohexanone b. Cyclohexanal c. Cyclohexane d. cyclohexene	c
70.	……..is electron withdrawing in nature and are meta directors. a. OH b. NO2 c. OCH3 d. NH2	B
71.	Folowoing are the Analytical evidences of Benzene except a. IR spectroscopy b. UV Spectroscopy c. NMR spectroscopy d. Mass Spectroscopy	b
72.	The procedure for determining Iodine value is called as a. Wijs' Method b. Reichert-Meissl Method c. Saponification d. Hydrolysis of Fats/Oils	a
73.	High Reichert-Meissl value indicates the presence of a higher amount _____ in fats/oils a. Lineolic acid b. Butyric acid c. Palmittic acid d. Steric acid	b
74.	The acetyl value is a measure of the number of..... groups in the fat a. CH3COOH b. COOH c. OH d. COOR	c
75.	The iodine value of fats and oils depends on the number of_____ present in the molecule a. double bonds b. single bonds c. ester linkages d. free fatty acids	a

76.	Following are the Lewis acids used in halogenation reaction except a. AlCl3 b. FeCl3 c. AlF3 d. FeBr3	c
77.	Correct order of reactivity in Friedel-Crafts Alkylation of Benzene is a. RCl > RF> RBr > RI b. RF > RCl > RBr > RI c. RI > RCl > RBr > RF d. RBr > RCl > RF > RI	b
78.	DDT was initially used by the military in WW II to control….. a. Malaria b. bubonic plague c. body lice d. All of the above	d
79.	Phenols are high boiling point compared to hydrocarbons of same molecular mass due to a. intramolecular hydrogen bonding b. intermolecular interactions c. intermolecular hydrogen bonding d. intramolecular interactions	c
80.	Phenol is also known as a. Carbolic acid b. Carbonic acid c. Benezenol d. Both A and C	d
81.	The acidic nature of phenol is attributed to ……effect in phenol a. -R b. +I c. +R d. -I	c
82.	Select correct order of phenols acidity a. *o*- > *m*-> *p*- nitrophenol b. *p*- > *m*-> *o*- nitrophenol c. *p*- > o-> *m*- nitrophenol d. *o*- > *p*-> *m*- nitrophenol	c
83.	Enzyme responsible for hydrolysis of fat is? a) Reductase b) Aconitase c) Lipase d) Kinase	c