Padasalai's Telegram Groups!

(தலைப்பிற்கு கீழே உள்ள லிங்கை கிளிக் செய்து குழுவில் இணையவும்!)

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CHEMISTRY

XII - STUDY MATERIALS

MARUTHAM MATRIC HR. SEC. SCHOOL

MORAPPUR - DHARMAPURI (Dt)

Naming reactions

(Volume -1)

1. Hydroboration (37)
2. Alcoholysis (46)
3. Ammonialysis (46)
4. Hydroformylation of Olefins (111)

(Volume -2)

1. Hydroboration (109)
2. Dihydroxylation (110)
3. Saponification (110)
4. Swern oxidation (117)
5. Dow's process (126)
6. Schotten – Baumann reaction (214)
7. Williamson ether synthesis (127,135)
8. Kolbe's (or) Kolbe's Schmidt reaction (130)
9. Riemer – Tiemann reaction (130)
10. Phthalein reaction (131)
11. Coupling reaction (131,222)
12. Friedel Craft's reaction (138)

    (Alkylation and Acetylation of Anisole)
13. Ozonolysis (149)
14. Rosenmund reduction (151,183)

39. Hoffmann's degradation (188,209)

40. Nef carbonyl synthesis (203)

41. Mendius reaction (208)

42. Gabriel Phthalamide synthesis (209)

43. Hoffmann's ammonialysis (209)

44. Sabatier – Mailhe reaction (210)

45. Diazotization (126,215)

46. Lieberman's nitraso test (215)

47. Carbylamine reaction (216,226)

48. Mustard oil reaction (216)

49. Hoffmann's mustard oil reaction (216)

50. Sandmayer reaction (220)

51. Gattermann reaction (220)

52. Baltz – Schiemann reaction (221)

53. Gomberg reaction (221)

54. Thrope Nitrile synthesis (225)

55. Levine and Hauser acetylation (225)

(Cyanomethylation)

56. Isomerisation (227)

Tests

(Volume – 1)

1. Test to identify borate radical (35)

2. Test for sulphate ion/sulphuric acid (80)

3.Test for Iodine (88)

4. Chromyl Chloride test (114)

5.Test for Unsaturation (117) (Bayer's reagent)

6. Give one test to differentiate $[Co(NH_3)_5Cl]SO_4$ and $[Co(NH_3)_5SO_4]Cl$ (172)

(Volume – 2)

1. Lucas test (110)

2. Victor mayer test (111 - 112)

3.Test for Phenol (131)

4. Haloform test (161)

5. How will you identify methoxy group in an ether? (136)

6. How will you identify location of double bond in an alkene? (149)

7. Tests for aldehydes: (166 – 167)

i) Tollen's reagent test ii) Fehling's solution test

iii) Benedict's solution test iv) Schiff's reagent test

8. Test for Carboxylic acid group (177)

9. Lieberman's nitraso test (215)

10. Tests for primary amine

i) Carbyl amine reaction (216,226)

ii) Hoffmann mustard oil reaction (216)

iii) Schiff's base test (165)

11. How will you identify nature of carbon atoms in Glucose? (241)

12. How will you identify carbonyl group in Glucose? (241)

13. Test to identify aldehyde in Glucose (242)

i) Bromine water test

ii) Tollen's reagent test

iii) Fehling's solution test

14. How will you identify 5-hydroxyl groups in Glucose? (242)

15. How will you identify nature of carbon atoms in Fructose? (245)

16. How will you identify carbonyl group in Fructose? (245)

17. How will you identify keto group in Fructose? (245)

18. How will you identify location of carbonyl group in Fructose? (246)

19. Give one test to differentiate Amylose and Amylopectine (248)

Uses/Applications

(Volume – 1)

1. Aluminium (17)

2. Zinc (17)

3. Iron (18)

4. Copper (18)

5. Gold (18)

6. Boron (33)

7. Borax (34)

8. Boric acid (35)

9. Diborane (38)

10.Boron trifluoride (38)

11. aluminium Chloride (39)

12. Alum (40)

13. Carbon monoxide (44)

14. Carbon dioxide (45)

15.Silicon tetrachloride (46)

16. Silicones (48)

17. Nitrogen (58)

18. Nitric acid (63)

19. Phosphorous (68)

20. Phosphine (70)

21. Phosphorous trichloride (71)

22. Phosphorous pentachloride (71)

23. Oxygen (75)

24. Sulphur dioxide (77)

25.Sulphuric acid (79)

26. Chlorine (86)

27. Royal water (Aquaregia) (86)

28. Hydrochloric acid (87)

29. Helium (93)

30. Neon (93)

31. Argon (93)

32. Krypton (93)

33. Xenon (94)

34. Radon (94)

35. Chromyl chloride test (114)

36. Potassium dichromate (114)

37. Potassium permanganate (118)

38. Co-ordination complexes (166-167)

(Volume – 2)

1. Kohlraush's law (42)

2. Adsorption (75)

3. Electrophoresis, Electro-osmosis (95)

4. Colloids (98)

5. Methanol (122)

6. Ethanol (122)

7. Ethylene glycol (122)

8. Glycerol (122)

9. Phenol (131)

10. Diethyl ether (138)

11. Anisole (139)

12. $BaSO_4$ (Rosenmund reduction) (151)

13. Urotropine (158)

14. Formaldehyde (167)

15. Acetophenone (167)

16. Acetone (167)

17. Benzaldehyde (167)

18. Aromatic ketones (167)

19. Formic acid (188)

20. Acetic acid (188)

21. Benzoic acid (188)

22. Acetyl chloride (188)

23. Acetic anhydride (188)

24. Ethyl acetate (188)

25. Carbylamine reaction (216)

26. Mustard oil reaction (216)

27. Nitro alkanes (228)

28. Nitrobenzene (228)

29. Cyanides,Isocyanides (228)

30. Carbohydrates (250)

Differencess

(Volume – 1)

1. Minerals – Ores (23)

2. Lanthanides – Actinides (123,129)

3. Double salts – Co-ordination salts (173)

4. Crystalline solid – Amorphous soild (178,200)

5. Hexagonal close packing - Cubic close packing (201)

6. Tetrahedral voids - Octahedral voids (201)

7. Rate – Rate constant (209)

8. Order – Molecularity (210)

(Volume – 2)

1. Lewis acid – Lewis base (5)

2. Physical adsorption – Chemical adsorption (71,103)

3. Sol – Gel (103)

4. Homogeneous –Heterogeneous catalysis (103)

5. Phenol – Ethanol (131)

6. Nitro – Acinitro form (199)

7. 1^0,2^0, and 3^0 amines (234)

8. DNA – RNA (264,270)

9. 1^0, 2^0, and 3^0 struture of proteins (270)

10. Antiseptic – Disinfectent (296)

11.Thermo – Thermosetting plastic (296)

Mechanisms

(Volume – 2)

1. Electrochemical mechanism of corrosion (60)
2. Enzyme catalyzed reaction (83)
3. Alkyl halide formation from 1^0 –alcohol (113)
4. Alkyl halide formation from 3^0 –alcohol (114)
5. Mechanism of conversion of alcohol to alkyl halide (114)
6. Elimination reactions.
    i) Dehydration reaction mechanism of 1^0 alcohol (115)
    ii) Dehydration reaction mechanism of 3^0 alcohol (115)
7. Intermolecular dehydration reaction mechanism of 1^0 ethanol (134-135)
8. Williamson ether synthesis (135)
9. Nucleophilic substitution of ethers with HBr or HI (134)
10. Acetaldehyde to Acetal (155 - 156)
11. Aldol condensation (161)
12. Cannizaro reaction (164)
13. Esterfication reaction (173-174)
14. Mechanism of enzyme action (259)
15. Free radical polymerization (287)

Classifications

(Volume – 1)

1. Silicones (47)

(Volume – 2)

18. Polymerization (287)

Limitations

(Volume – 1)

1. Ellingham diagram (13)
2. Werner's theory (133)
3. VB theory (152)

(Volume – 2)

1. Arrhenius concept of acids and bases(3)
2. Lowry – Bronsted theory (4)
3. Freundlich adsorption isotherm (74)
4. Intermediate compound formation theory (81)

Factors affecting

(Volume – 1)

1. Rate of the reaction (222)

(Volume – 2)

1. Electrolytic conductance (37)
2. Adsorption (72)

General characteristics

(Volume – 1)

1. Inter halogen compounds (89)
2. Solids (177)
3. Ionic solids (179)

(Volume – 2)

1. Adsorption (71)
2. Catalysis (78)
3. Enzyme catalyzed reaction (83)

Oxidizing behavior

(Volume – 1)

1. Nitric acid (62)
2. Ozone (75)
3. Sulphur dioxide (76)
4. Sulphuric acid (78 - 79)
5. Chlorine (85)
6. Potassium dichromate (113)
7. Potassium permanganate (116)

Reducing behavior

(Volume – 1)

1. Coke (9)
2. Carbon monoxide (43, 55)
3. Carbon dioxide (45)
4. Ammonia (59, 60)
5. Phosphorous (68)
6. Phosphine (69)
7. Sulphur dioxide (77)

8. HI (88)

(Volume – 2)

1. Formic acid (177)

Mixtures

(Volume – 1)

1. Matte (8)
2. Producer gas (43)
3. Water gas (45)
4. Royal water (Aqua regia) (86)
5. Bayer's reagent (117)
6. Enantiomers (146)

(Volume – 2)

1. Acid buffer solution (16)
2. Basic buffer solution (16)
3. Colloids (87 -88)
4. Lucas reagent (110)
5. Glycerose (121)
6. Tollen's reagent (167)
7. Fehling's solution A (167)
8. Fehling's solution B (167)
9. Benedicts solution (167)
10. Sweet spirit (228)
11. Honey (247)
12. Starch (248)

13. BHT , BHA (283)

Action of heat

(Volume – 1)

1. Borax (34)

2. Boric acid (35)

3. Diboranes (36)

4. Alum (40)

5. CO_2 (45)

6. $H_4B_2O_7$ (55)

7. NH_3 (59)

8. HNO_3 (61)

9. H_3PO_3 (69)

10.PH_3 (69)

11. PCl_5 (71)

12. H_2SO_4 (78)

13. $KClO_3$ (99)

14. $K_2Cr_2O_7$ (113)

15. $KMnO_4$ (116)

(Volume – 2)

1. Ethanol (115)

2. Glycol (119)

3. 1^0,2^0, and 3^0 alcohlos (118)

4. Glycerol (121)

5. Calcium salt of carboxylic acids (150)

6. Aldol (162)

7. Acetic acid (175)

8. Ammonium acetate (186,224)

9. Acetamide (187, 224)

10. Acetaldoxime (224)

11. CH_3NC (227)

Structures

(Volume – 1)

1. Boric acid (35)

2. Diborane (37)

3. Graphite (41)

4. Diamond (42)

5. Fullerenes (42)

6. Carbon nanotube (43)

7. Graphene (43)

8. CO (44)

9. CO_2 (45)

10. Ortho Silicate (48)

11. Pyro Silicate (49)

12. Cyclic Silicate (49)

13. Chain Silicate (49)

14. Double chain Silicate (50)

15. Phyllo or sheet Silicate (50)

16. Ammonia (60)

17. Oxides of nitrogen (65)

18. Oxoacids of nitrogen (66)

19. Whitr phosphorous (67)

20. Red phosphorous (67)

21.PH_3 (70)

22. PCl_3 (71)

23. P_2O_3 (71)

24. P_2O_5 (72)

25. Oxoacids of Phosphorous (72)

26. Ozone (74)

27. SO_2 (77)

28. Oxoacids of Sulphur (80-81)

29. Chromate ion (113)

30. Dichromate ion (113)

31. Permanganate ion (116)

32. NaCl (179)

33. Isotropy, Anisotropy (178)

34. Unit cell (180)

35. Bravais primitive unit cell (181)

36. sc,bcc,and fcc unit cell (183,184)

(Volume – 2)

1. Alcohol (107)

2. Ether (133)

3. Carbonyl group (148)

4. Carboxyl group (169)

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