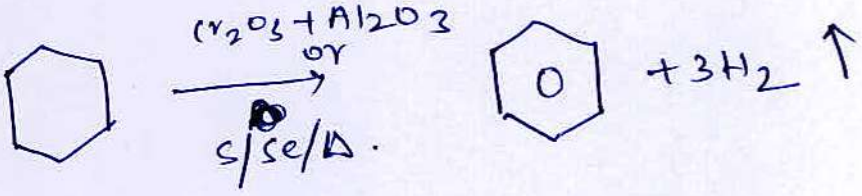
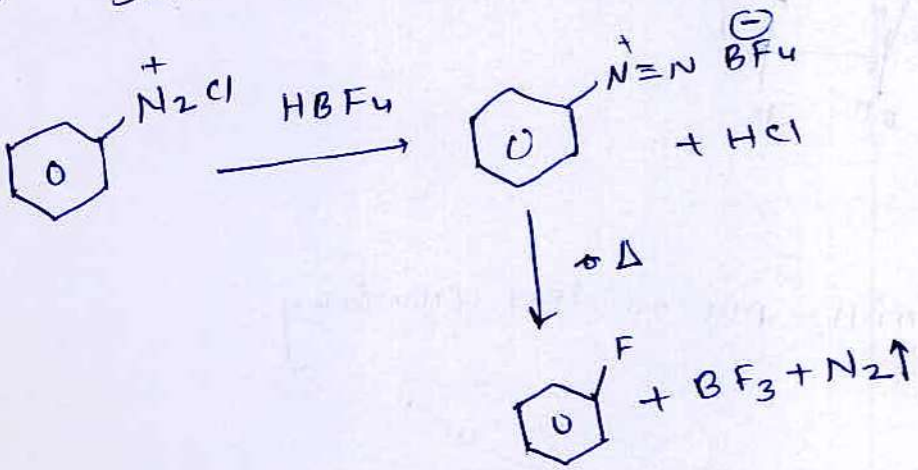
Chemistry

51. (D) Bromopheniramine is Antihistamine.

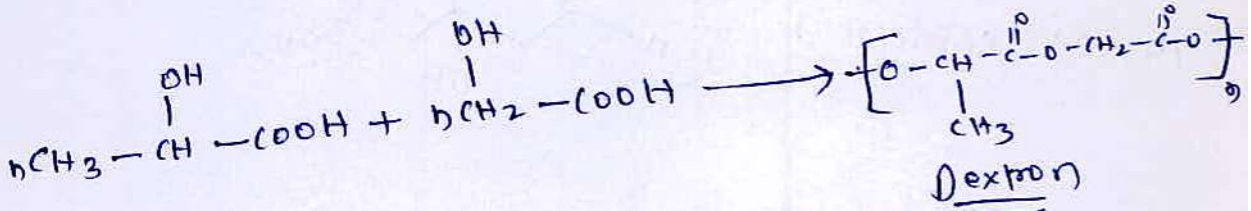
52. D. Dehydrogenation



54. (B) BaI_2 – Schiemann reaction

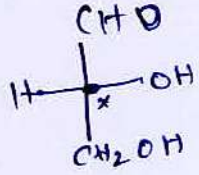


56. (B)



58. (A)

62. (D).



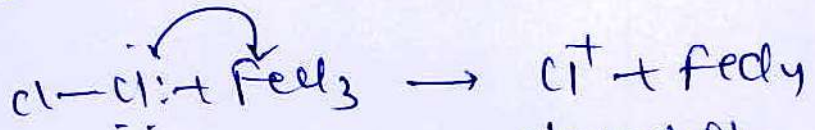
65. (D) –OH

z = 8.

61. (A) Nitrogen is diatomic N_2.

63. C $Ti^{+4}(d^0)$ colourless
$Cu^{+}(d^{10})$

64. (C)



68. (A)

69. Phosphonic acid (H_3PO_3)

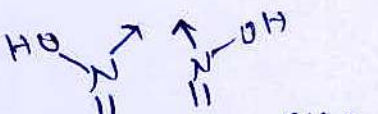
70. (B) $[AuCl_4]^{-1}$

$x + (-4) = -1$

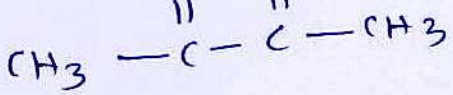
$x = 4 - 1$

$x = 3$.

73. (A)



75. (B) →



76. (Be).

77. (B) $2NH_3 + NaOCl \longrightarrow N_2H_4 + NaCl + H_2O$.
Hydrazine.

78. (C) $1.8\ gmL^{-1}$

79.

80. (B) Titanium

81. $w = -P_{ex}(V_2 - V_1)$

$$w = -\frac{101.325 \times 10^3}{1.01325 \times 10^5} \times \frac{(2000 - 10) \times 101.3}{1000}$$

$$= -201.6\ kJ$$

82. (A) 2nS.

83. (A) $H_2O \longrightarrow H_2 + O_2$

84. (B) Hall is process

85.

86. (B) NO formed in first step is consumed in second step. hence it is intermediate.

87. (A) $\Delta U = q + w$

$w = -P_{ex}\Delta V$

$\Delta U = q_p - P_{ex}\Delta V$

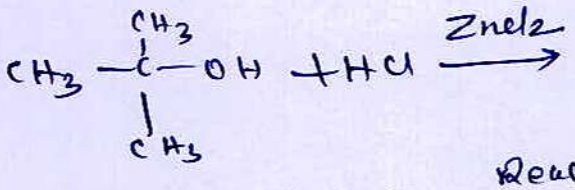
96. (B) NH_3
oxidation NO. $= -3$.

97. (B).

98. (D) $La(OH)_3$. Due to Lanthanide Contraction

99. kgm^{-3}

92. (D).



Tertiary alcohol more reactive

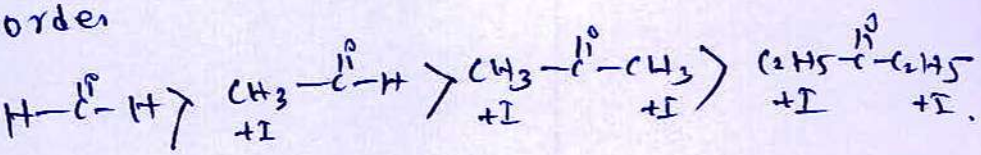
Reactivity order of ROH

$3^{\circ} > 2^{\circ} > 1^{\circ}$ alcohol.

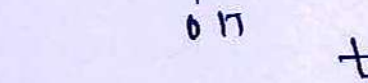
97. (B).

more electrophilic in nature

Reactivity order



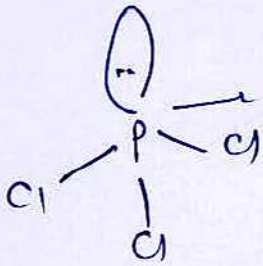
100. (C)



not contain $-CH_3$ group adjacent to $-CH-OH$ group.

88. (B) zinc.

89. (B) PCl_3



3 sigmabond + one lone pair

90. (B) Zinc

91. (A) U (unified mass)

93. (A) Nitric oxide (NO)

94. (c)

$$\text{No. of moles of } e^- = \frac{i \cdot t}{96500}$$

$$= \frac{2 \times 20 \times 60}{96500}$$

$$= 2.487 \times 10^{-2} \text{ mole}^-$$

95. (B) $M = \frac{w}{MW} \times \frac{1000}{V(ml)}$

$w = 15g$

$MW = 60$.

$M = \frac{15}{60} \times \frac{1000}{500}$

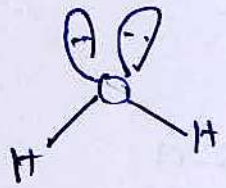
$= 0.5M$

$= 0.5M$.

53. (D)

55. $M_2 = \frac{K_b \cdot W_2}{\Delta T_b \cdot W_1}$

57. (A)



59. (A)

$$C_2H_5OH + O_2 \longrightarrow 2CO_2 + 3H_2O$$
$$(l) \quad (g) \quad (g) \quad (l)$$

$\Delta n = 1$

$W = -\Delta nRT$ · for 1 mole

for 3 mole

$$W = \frac{138}{46} \times 1 \times 8.314 \times 300$$

$$= -7482 J$$

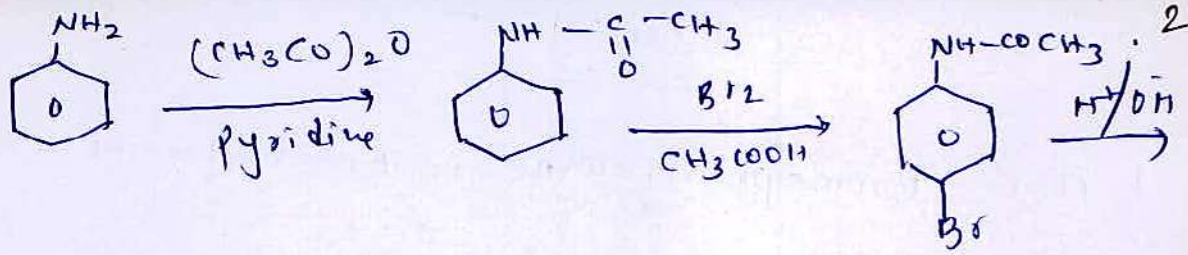
60. (C) $-Ea/2.303R$.

$K = A \cdot e^{-Ea/RT}$

$$\log K = \frac{-Ea}{2.303R} \times \frac{1}{T} + \log A$$

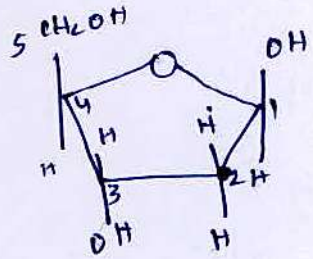
$$\text{Slope} = \frac{-Ea}{2.303R}.$$

66. (C)



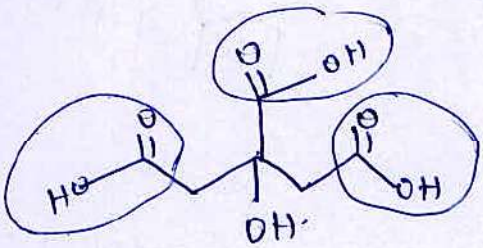
67. (C) $-CH_3$
+I.

71. (C)



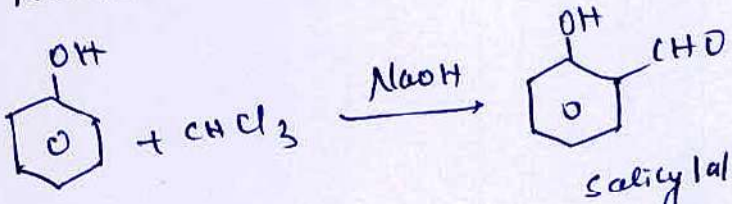
72. (C) CH_3CH_2COOH Due to less crowding.

74 (A) Citric acid



79. (C) Nomex.

85. (B) Reimer-Tiemann reaction



Salicylaldehyde.