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DEPARTMENT: Department

MATRIC NUMBER: 19/MHS09/004

COURSE: CHM 102

## Assignment:

10000	
	Assignment on carboxylic acid
1.00	
(1.)	HCOOH - Methoic acid.
10.	HOOCCH2 CH2 CH2 COOH -
	Pentan-1,5-dioic acid
iii.	CH3CH2CH2OOH - Bu tonoic acid
iv.	HO2C-CO2H-Ethanoic acid.
4.	CH3 CCH2)4 COOH-Haxanoic acid.
vi.	CH3CH=CHCH2CH2COOH-Hax-4-anic
	acid.
2.	Physical properties of carboxylic
	90145)
i	- Physical opporances.
1000	Hu simple aciphatic car boxy lic
	acids dip to Cip are tiquics at
	room temperature, most other
	carsoxyvie acies are solid at
	room temperature although.
MARKET STATE	anhydrous carboxylic acid Caletic
	acid are Known as glacial ethanor
	acid Free zes to an 10-410 Sold
	below room temperature.

ii. Boiling point:

Boiling point increases with increasing relative molecular most.

Aromatic carsoxylic acids are crystalline socies and have higher melting points than their aliphatic counterparts of comparable relative molecular mass.

lii. Solubility:

Lower molecular mass carboxylic acids with up to Four carbon atoms in their molecules are goluble in water, this Largely due to their ability to form hydrogen bonds with water molecules. The water solubility of the acids decreases as the relative molecular mass increases because the Structure becomes relatively more by drolarbor in mature and hence cordant. All carboxylic acids are soluble in organic solvents.

3. Industrial proparations of Carboxquic acids include; 1. From ethanoc. Etnanoic acid is Obtained commercially by the viguid prase air-oxidation of 559 59 solution of ethanal to ethanic acid Using man manganite (1) ethanoate Catalyst. Ethanal itsour is 06 tained from extryler, cin. 42504/43504 CHO 2/CCH3CODJAM CH3COOH Etmandic 11 H250/115047 From Petroleum -Liquid phase air oxidation of Co-Cy alkenes, Obtainable From Petroleum at high temperature and presure will give Go-G Carsodylic acids with methonic Proponoic and be tanedioic acids by as by Products.

Co-Cy High temp and pressure

Co-Cy at

alkaros) 10 promises 30 notification

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and the second pressure 10 notifica

4 Synthetic Preparation of Carbony i oxidation of primary accomos and aidenydos; oxidation of primary alcohols and alderydes can be used to prepare carboxylic acids using the usual oxidizing agents Circ K2CT2O7 or KMn Dif) in acido soution. RCHOH (D) excession KMADOR RCHO. [3). > RCOD! in Carbonation of Grignard Reagent Aliphatic carsoxylic acids are obtain by bu balling carbon Civ) oxide into the Grignard rangent and then RmgBr + CO2 (1/43)20 - R CODING Br +201411000 · K may be io, 2, 3° quiphatic alkyl or cry in the proparation of benzole acid, the reagont is added to social carbon civioxid Colont to the reaction mixture.

Colont to the record to the the the reaction of nitrities (Cyanides) or the rest of the result of anyl radical).

Reference of anyl radical.

Reference to the refux of the record of the the the result of the result

E. Che mical road tons,

i peduction of primary alcohol

4 PCOOH+ 3Li AlH, (2+5)20 - (PCH20)4 ALLi+2Li ALD2+4H,

4 H20.

6 H2CH2CH4 COOH Ci AUH+ CH3 CH2 CH2 CH2 OH.

11. Cocor boxylo tion.

CH3CH2COON + 2 H20 21 Caroupis/qual tiph CH3 CH2 CH3 CH3

(Genod)

11. Estarisication.

CH2CH2CH2COOH+ CH3 CH2 CH2OH. H+

CH3CH2CH2COOCH2 CH2CH3 + H20.