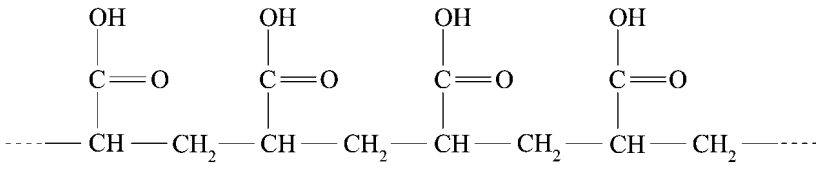
Year 11 Chemistry NAME_____

Organic Chemistry Assignment 5

1. For the following alcohols:
   (i) state whether it is a primary, secondary or tertiary alcohol
   (ii) name the oxidation product (if any)
   a) pentan-3-ol /2
   b) 2-methyl butan-2-ol /2
   c) hexan-1-ol /2

2. For the following amines:
   (i) state whether it is a primary, secondary or tertiary amine
   (ii) name the product of a reaction with acidic solution
   a) propan-2-amine /2
   b) N,N-dimethyl ethanamine /2
   c) N-methyl methanamine /2

3. For the following sections of polymer chain:
   (i) draw brackets to identify the repeating unit
   (ii) state the polymer type: addition, condensation (polyester), or condensation (polyamide)
   (iii) write the structural formulae of the monomer(s) from which the polymer was formed
   a)



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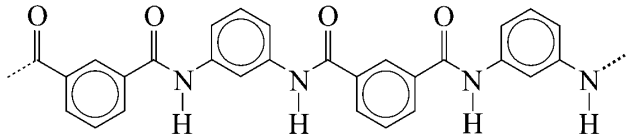
   b)



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4. For the following monomer(s):
   (i) draw a section of the polymer that would form
   (ii) state the polymer type: addition, condensation (polyester), or condensation (polyamide)

   a) $HO - CH_2 - \underset{\displaystyle CH_3}{\underset{|}{CH}} - \underset{\displaystyle O}{\underset{||}{C}} - OH$

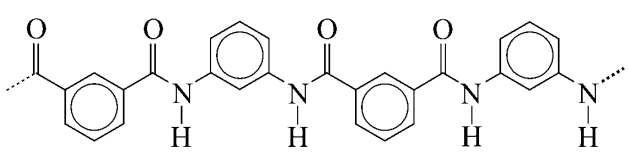
/3

   b) $H_2N - (CH_2)_6 - NH_2$ and $HOOC - (CH_2)_4 - COOH$

/3

5. Consider the polymer chain sections A and B below:

A:



B:

$$-CH_2-\underset{\displaystyle CH_3}{\underset{|}{CH}}-CH_2-\underset{\displaystyle CH_3}{\underset{|}{CH}}-CH_2-\underset{\displaystyle CH_3}{\underset{|}{CH}}-$$

   a) Explain which polymer will have a higher melting point. /2
   b) Explain which polymer will absorb water better. /2

TOTAL /29