Chemistry 230 Semester 01-2015 Homework for Submission #5

Answer the following questions and submit them for marking on or before Wednesday 15th April 2008. If any answers show evidence of copying, the whole exercise will attract zero marks.

1)	Suggest how you could carry out the conversions indicated below by writing a reaction scheme using structural formulae. Mention reagents used and any special conditions. (All of them can be accomplished in three steps or fewer.) (4 marks each) a) 1-Bromopropane to 1-butanol.
	b) Iodoethane to 1-propanamine
	c) 2-bromopropane to propanone
	d) Ethene to ethanoic acid

2)	soc	be compound (R) -2-iodopentane may be <i>hydrolysed</i> by refluxing it with aqueous dium hydroxide. Most of the product is formed by an S_N 2 reaction. What is the main product of this reaction? Give a perspective formula and a name.	(2)
	b)	Give a mechanism for the reaction showing the transition state and explain why leads to inversion of configuration.	y it (5)
	c)	Hydrolysis of (<i>R</i>)-3-methyl-3-bromohexane under appropriate conditions produces a racemic mixture of (R)- and (S)-2-methyl-2-hexanol. i) Explain the meaning of the term <i>racemic</i> .	(1)
		ii) Suggest a name for the mechanism that is operating here.	(1)
		iii) Explain how this mechanism leads to racemisation.	(3)