## PROBLEM SET # 21

Problem 21.18
Show the products you would obtain by reduction of the following esters with LiAlH<sub>4</sub>:

(a) H<sub>3</sub>C O (b) O CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CHCOCH<sub>3</sub>

Problem 21.1 What ester and	<b>19</b> d what Grigna	ard reagent mig	ht vou start with	n to prepare the fol	
(a) H <sub>3</sub> C	CH <sub>3</sub> (	(p) H <sup>3</sup> C	OH	(c)	OH I
	ОН			CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> (	CH <sub>2</sub> CCH <sub>2</sub> CH <sub>3</sub>
					Сп <sub>2</sub> СН <sub>3</sub>

**21.40** The following reactivity order has been found for the saponification of alkyl acetates by aqueous NaOH. Explain.

 ${\rm CH_{3}CO_{2}CH_{3}} > {\rm CH_{3}CO_{2}CH_{2}CH_{3}} > {\rm CH_{3}CO_{2}CH(CH_{3})_{2}} > {\rm CH_{3}CO_{2}C(CH_{3})_{3}}$