Marks 7

• Give the constitutional formula(s) of the organic product(s) formed when each of the following compounds is treated with 4 M sodium hydroxide. The first three reactions proceed at room temperature; the last two require heating.

2009-J-9

COMPOUND	ORGANIC PRODUCT(S)
CH <sub>3</sub> CH <sub>2</sub> COOH	CH <sub>3</sub> CH <sub>2</sub> CO <sub>2</sub> <sup>⊖</sup>
$\begin{array}{c c} CH_3 \\ H \searrow \begin{matrix} / & CH_3 \\ N \oplus & \Theta \\ CH_3 & Br \end{array}$	H <sub>3</sub> C CH <sub>3</sub> CH <sub>3</sub>
H <sub>3</sub> C O CH - C H <sub>3</sub> C Cl	$H_3C$ $O$ $O$ $Na^{\oplus}$
H <sub>3</sub> C C O	$H_3C$ $C$ $O$
ON	O O Na <sup>⊕</sup> + H-N