Problem of the Day 26

Section 7.2

Question 7.09 (a)–(c)

These three examples are cases in which the mechanistic pathway indicated is the major one, but in an actual experiment, $S_N 2$ and E 2 are always competing to some degree unless they are totally precluded. For (a) and (c), show the E 2 byproducts; for (b) show the $S_N 2$ byproduct.

ORIGINAL:

(a)
$$\stackrel{\vdots}{\underset{H}{\overset{\circ}{\bigvee}}} \operatorname{Br} \stackrel{\vdots}{\underset{CH_2CH_3}{\overset{\circ}{\bigvee}}} \operatorname{K} \stackrel{\Theta}{\underset{S_{N^2}}{\overset{\circ}{\bigcup}}} \operatorname{C} = N$$

(c)
$$H \longrightarrow CH_3 \xrightarrow{S_N 2} S_N 2$$

POD:

(a)
$$K \oplus \Theta: C \equiv N:$$
 $H \cap CH_2 \cap CH_3$
 $H \cap CH_2$

(c)
$$H \xrightarrow{Na} \overset{\bigoplus}{: S-CH_3} \overset{\bigcirc}{: S-CH_3} \xrightarrow{H} CH_3 \xrightarrow{H} CH_3$$