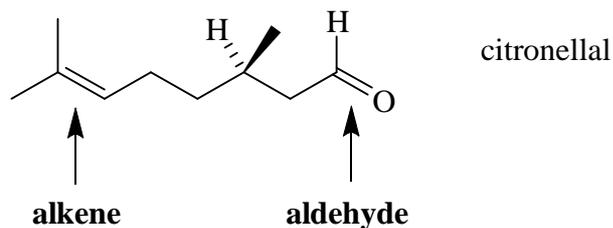


Marks
5

- (+)-Citronellal is a widely occurring natural product present in citronella oil, lemon and lemon grass. It is used as a soap perfume and in insect repellents.



Give the molecular formula of citronellal.



Identify the functional groups present in citronellal.

Alkene and aldehyde (see structure above)

Draw the constitutional formula of the product(s) formed when citronellal is treated with each of the following reagents.

$\text{Cr}_2\text{O}_7^{2-} / \text{H}^+$	
3 M H_2SO_4	
excess CH_3OH / catalytic amount H_2SO_4	

THE REMAINDER OF THIS PAGE IS FOR ROUGH WORKING ONLY.