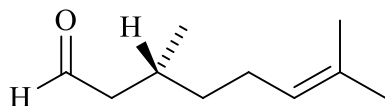


Marks
4

- The structure of (+)-citronellal, a widely occurring natural product, is shown below.



Give the constitutional formula of the organic product formed from (+)-citronellal in each of the following reactions.

Reagents / Conditions	Constitutional Formula of Product
1. LiAlH_4 in dry ether (solvent) 2. $\text{H}^+ / \text{H}_2\text{O}$	
HBr in CCl_4 (solvent)	
$\text{Na}_2\text{Cr}_2\text{O}_7$ in aqueous acid	
$\text{H}_2 / \text{Pd-C}$ catalyst	