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

Marks

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. H ⁺ / H ₂ O | |
| HBr in CCl ₄ (solvent) | |
| Na ₂ Cr ₂ O ₇ in aqueous acid | |
| H ₂ / Pd-C catalyst | |