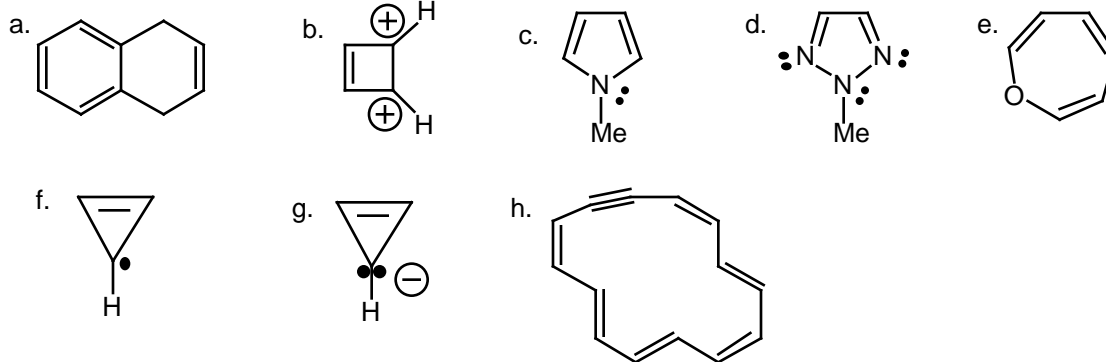
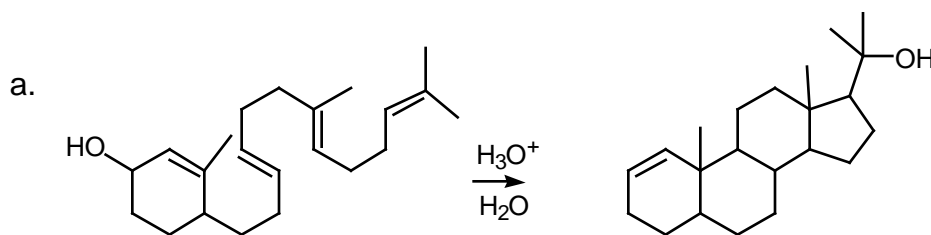


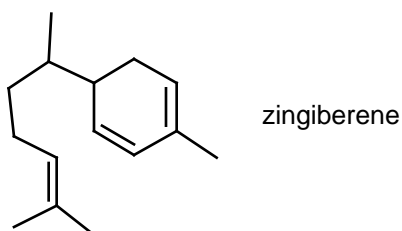
1. Determine which of the following compounds is likely to be aromatic based on electron count. Explain your analysis.



2. Use the arrow formalism to rationalise the following reactions:



3. Propose a mechanism for the biosynthesis of zingiberene, from oil of ginger



4. Propose a mechanism for the biosynthesis of nootkatone. You need not account for the precise configuration of the side groups.

