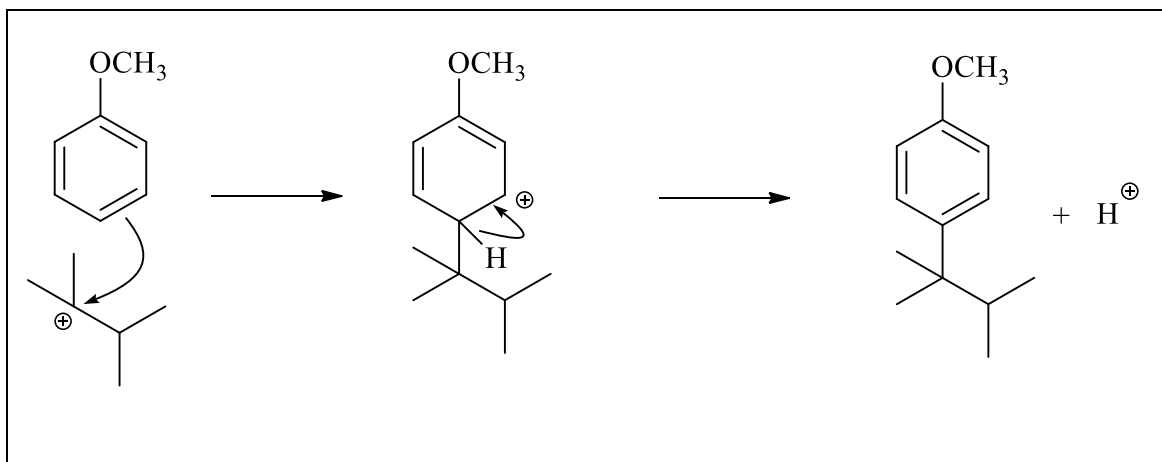
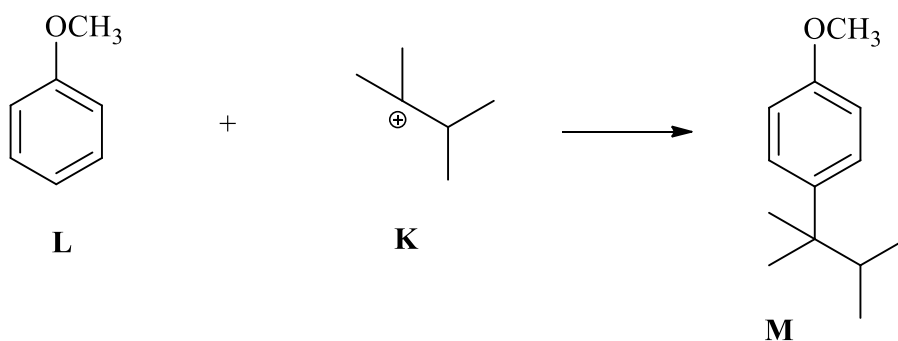


Reaction of **K** with anisole (methoxybenzene, **L**) gives **M** as the major product. Propose a mechanism for this transformation.

**Mark  
s**  
4



Briefly explain why the 4-substituted product **M** is formed preferentially.

**Substitution at positions 2 and 4 is favoured over position 3 due to the relative stabilities of the Wheland intermediates. There are 4 resonance contributors for substitution at positions 4 (or 2), but only 3 for substitution at position 3. Position 4 is favoured over position 2 due to steric effects - the methoxy group attached to C1 physically blocks approach of the attacking carbocation./**

