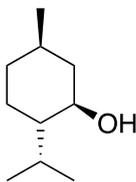
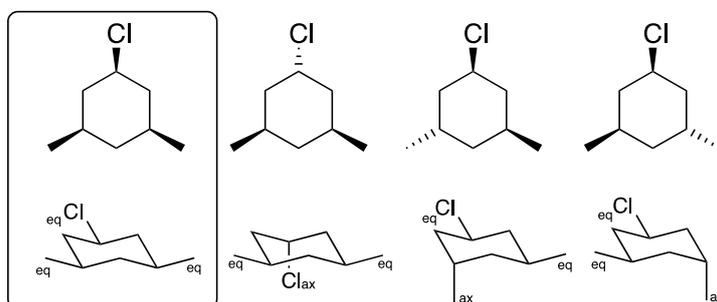


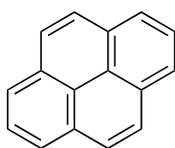
1) Il (-) mentolo, presente nell'olio essenziale della menta piperita é l' (1*R*,2*S*,5*R*)-2-isopropil-5-metilcicloesano. Scrivere la formula di struttura.

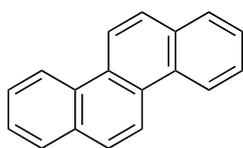


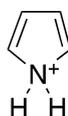
2) Scrivere tutti gli stereoisomeri dell'1-cloro-3,5-dimetilcicloesano e indicare quale è più stabile.

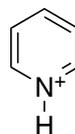


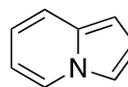
3) Determinare quali dei seguenti composti sono aromatici.

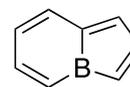




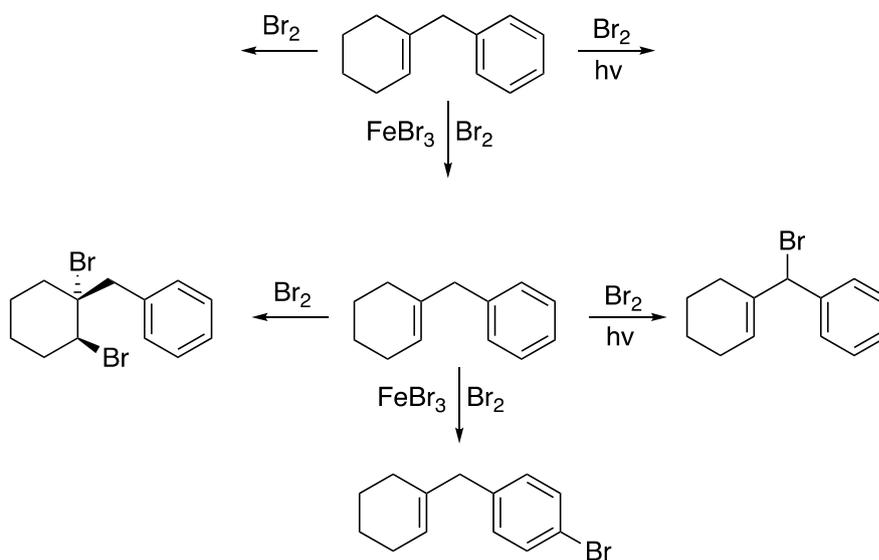




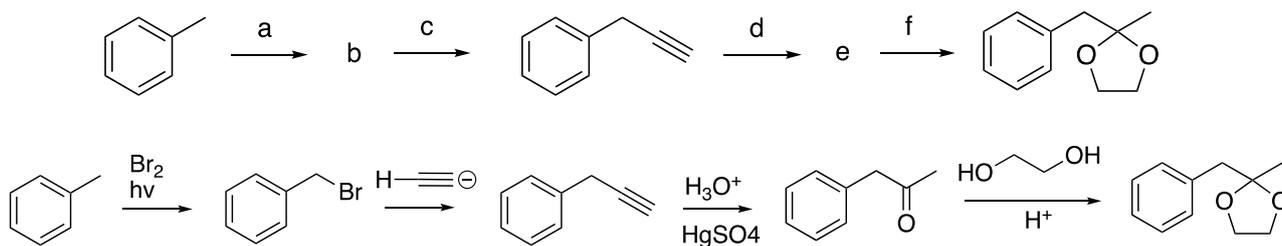




4) Completare le seguenti reazioni:

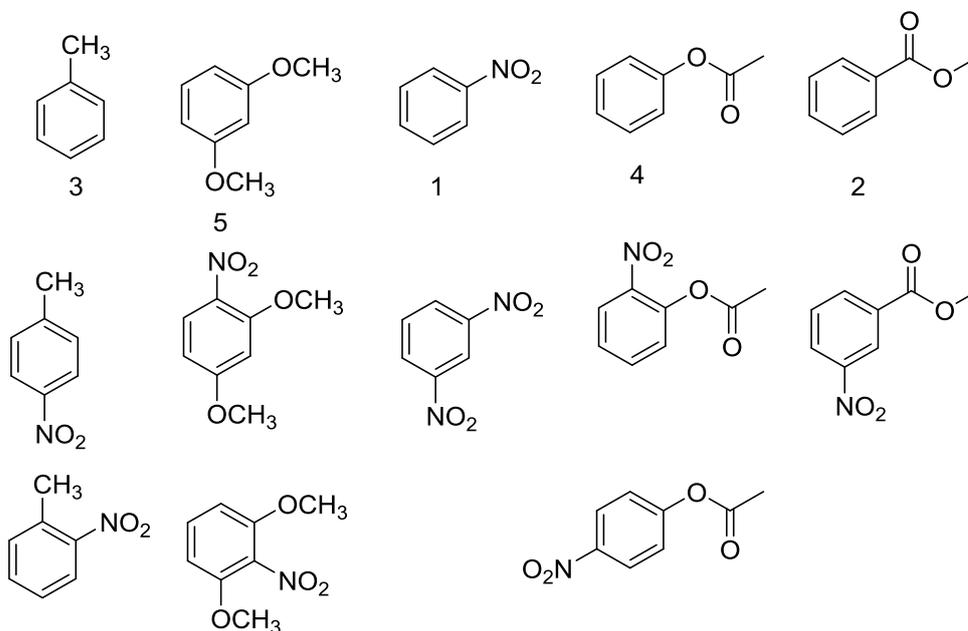


5) Completare la seguente sintesi.

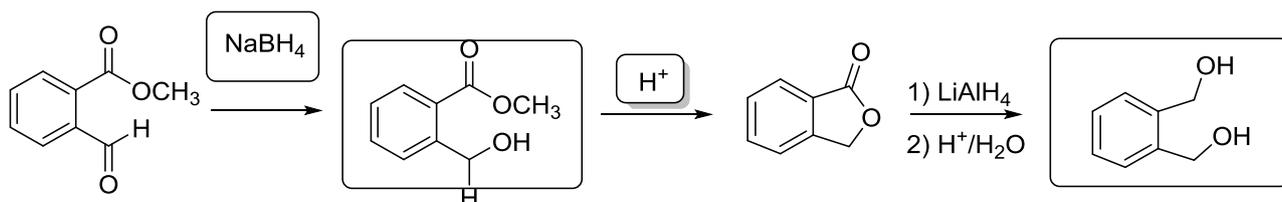


6) a) Mettere in ordine di reattività crescente nei confronti della sostituzione elettrofila aromatica i seguenti substrati.

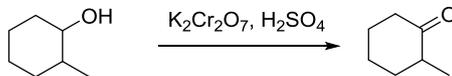
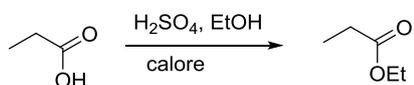
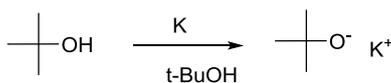
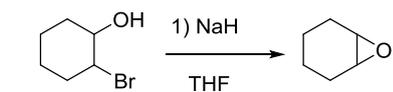
b) Per gli stessi substrati indicare i prodotti della reazione con la miscela $\text{HNO}_3/\text{H}_2\text{SO}_4$



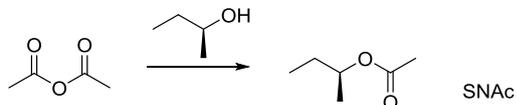
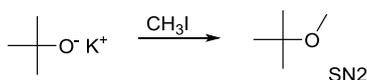
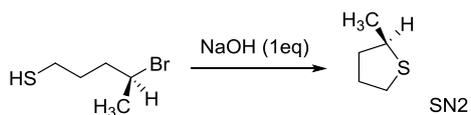
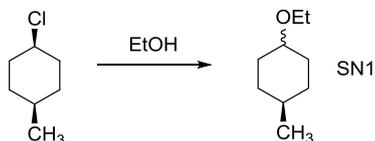
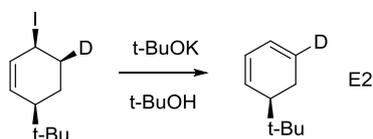
7.) Completare il seguente schema di reazioni



8) Completare le seguenti reazioni



9) Completare le seguenti reazioni indicando il nome del meccanismo e la stereochimica del prodotto, se rilevante.



10) Completare le seguenti reazioni

