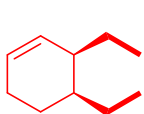
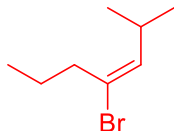
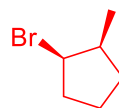
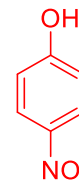
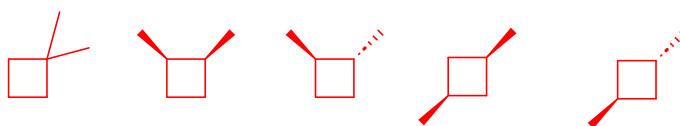


1) Scrivere le strutture delle seguenti molecole: a) *cis*-3,4-dietilcicloesene; b) (*E*)-4-bromo-2-metil-3-eptene; c) (*R*)-1-bromo-(*S*)-2-metilciclopentano; d) *p*-nitrofenolo

*cis*-3,4-dietilcicloesene(*E*)-4-bromo-2-metil-3-eptene(*R*)-1-bromo-(*S*)-2-metilciclopentano*p*-nitrofenolo

2) Scrivere gli isomeri del dimetilciclobutano e indicare quali isomeri sono chirali, meso o achirali.



achirale

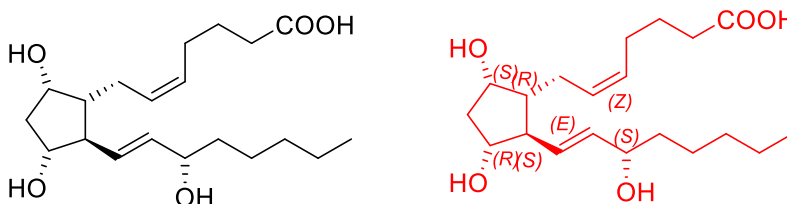
meso

chirale

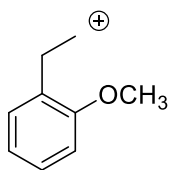
achirale

achirale

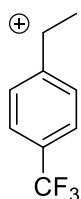
3) Assegnare la configurazione dei centri stereogenici e dei doppi legami presenti nella prostaglandina $F_{2\alpha}$.



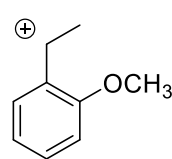
4) Ordinare in ordine di stabilità crescente i seguenti carbocationi. Nel caso del composto **c** scrivere tutte le forme di risonanza possibili.



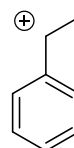
a



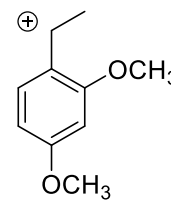
b



c



d



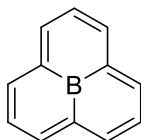
e



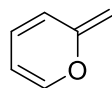
5) Sulla base della regola di Hückel identificare i composti aromatici, antiaromatici e non-aromatici



non-aromatico



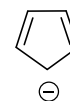
antiaromatico



non-aromatico

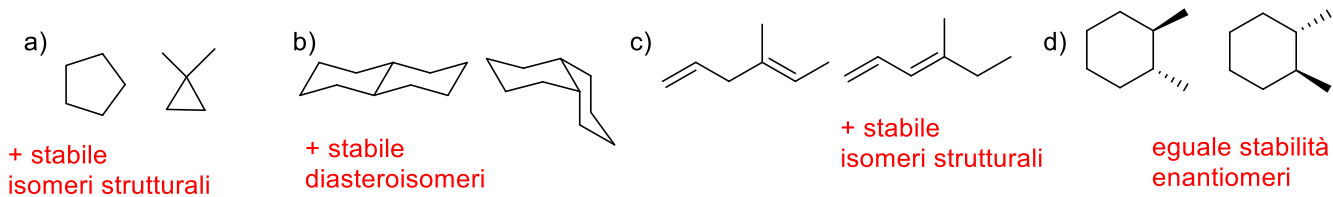


aromatico

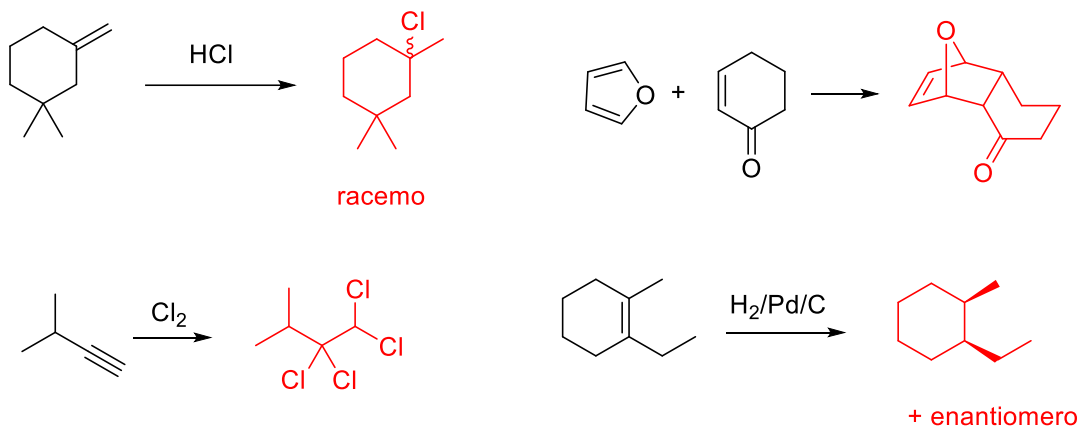


aromatico

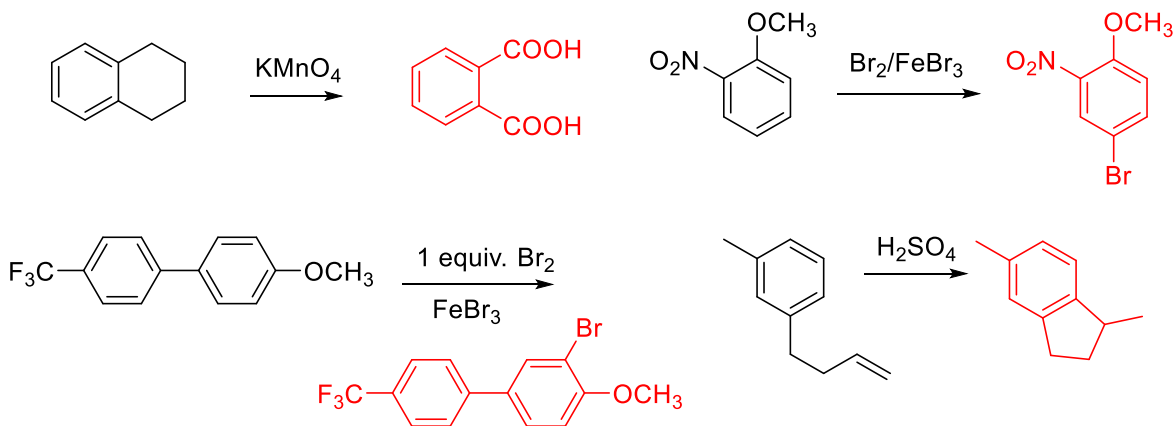
6) Per le seguenti coppie di isomeri indicare che tipo di isomeri sono (strutturali, diastereoisomeri, enantiomeri) e per ogni coppia indicare il composto più stabile (se esiste).



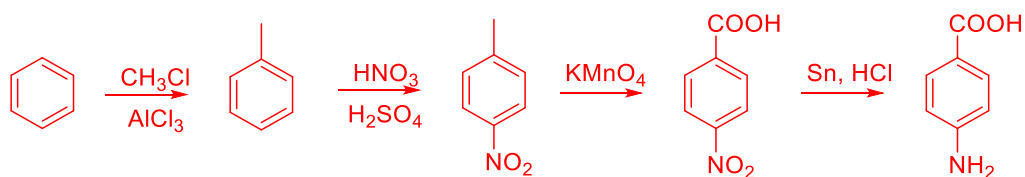
7) Completare le seguenti reazioni indicando la struttura dei prodotti e la stereochimica quando rilevante.



8) Scrivere i prodotti principali delle seguenti reazioni



9) Proporre una sintesi del dell'acido *p*-amminobenzoico a partire dal benzene



10) Completare la seguente sintesi indicando le strutture dei reagenti e intermedi A, B, C, D

