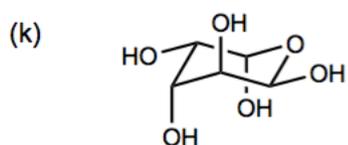
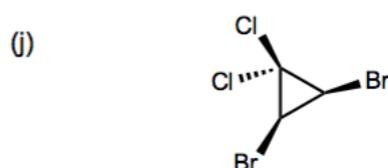
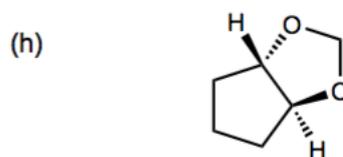
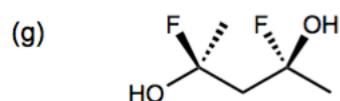
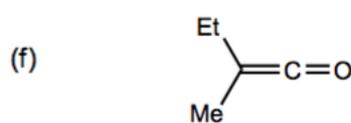
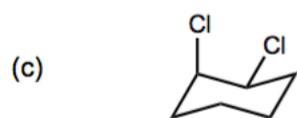
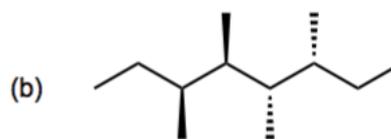
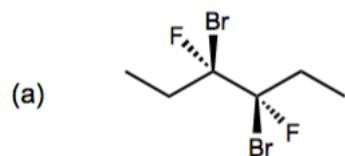
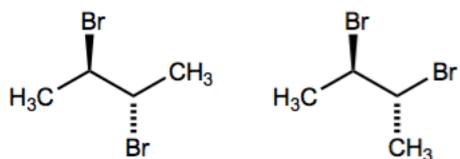
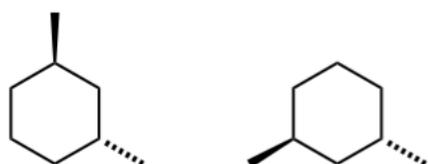
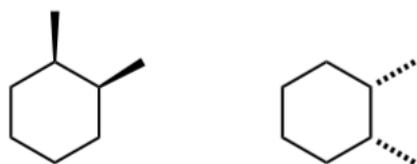
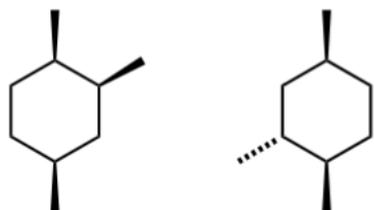


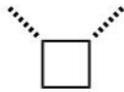
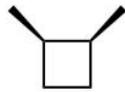
1. Indicare se le seguenti molecole sono chirale o achirali e specificate la presenza di composti meso.



2. Per ciascuno delle seguenti coppie di stereoisomeri indicate se sono enantiomeri, diastereoisomeri o lo stesso composto.



3. Per ciascuno delle seguenti coppie di isomeri, identificate se sono identici, enantiomeri, diastereoisomeri o nessuna di queste opzioni (cerchiando la risposta).

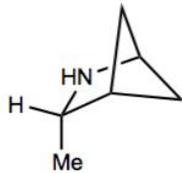
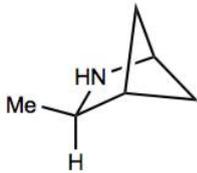


Identical

Enantiomers

Diastereomers

None

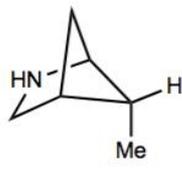
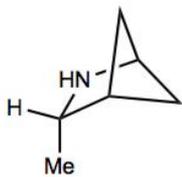


Identical

Enantiomers

Diastereomers

None

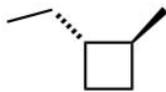
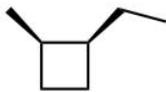


Identical

Enantiomers

Diastereomers

None

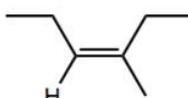
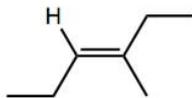


Identical

Enantiomers

Diastereomers

None

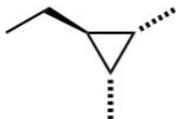
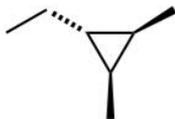


Identical

Enantiomers

Diastereomers

None



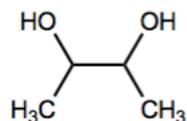
Identical

Enantiomers

Diastereomers

None

4. Considerate la seguente molecola:



- a. Esistono 3 stereoisomeri configurazioni (che hanno la stessa formula strutturale). Disegnate I tre diversi stereoisomeri qua sotto

|          |          |          |
|----------|----------|----------|
| <b>A</b> | <b>B</b> | <b>C</b> |
|----------|----------|----------|

- b. Cerchiate per ciascun stereoisomeri se e' chirale o achirale

|                             |                             |                             |
|-----------------------------|-----------------------------|-----------------------------|
| <b>A:</b> chiral    achiral | <b>B:</b> chiral    achiral | <b>C:</b> chiral    achiral |
|-----------------------------|-----------------------------|-----------------------------|

- c. Due degli stereoisomeri hanno lo stesso punto di fusione (19 °C). L'altra specie ha un punto di fusione diverso (34 °C). Cerchiate la specie alla quale appartiene il punto di fusione piu' alto.

|          |          |          |
|----------|----------|----------|
| <b>A</b> | <b>B</b> | <b>C</b> |
|----------|----------|----------|

- d. Quale caratteristica comporta che due stereoisomeri abbiamo lo stesso punto di fusione?

5. Disegnate i seguenti dimetilcicloesani (sull'anello planare) e poi identificate se i due sostituenti dovrebbe essere "assiale ed equatoriali" oppure "entrambi equatoriali"

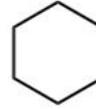
1,2-cis



1,3-cis



1,4-cis



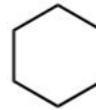
1,2-trans



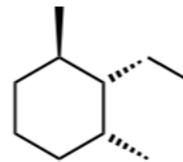
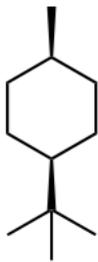
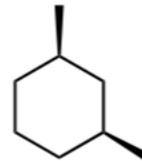
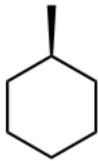
1,3-trans



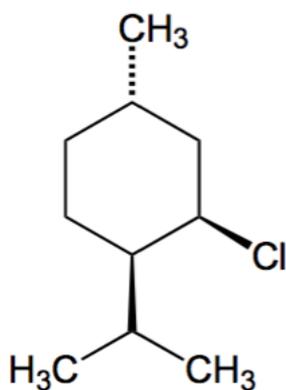
1,4-trans



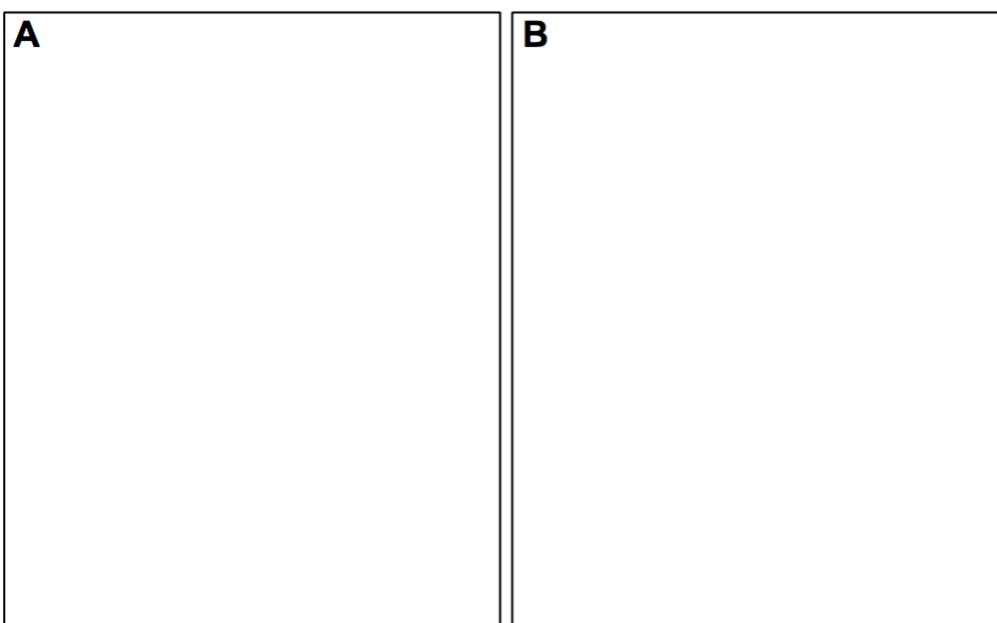
6. Disegnate ciascun dei seguenti cicloesani nella conformazioni piu' stabile



7. Considerate la seguente molecola:



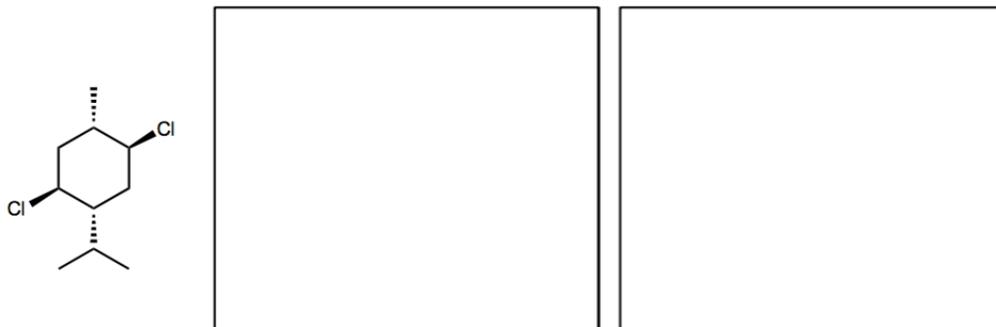
- a. Questa molecola dovrebbe avere due conformazioni a sedia relativamente stabili. Disegnate le due conformazioni qua sotto



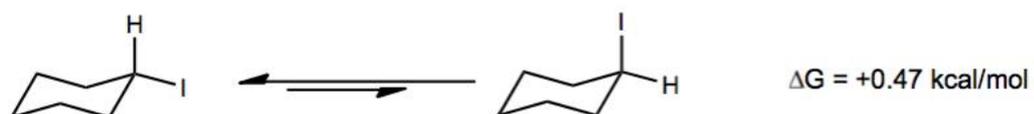
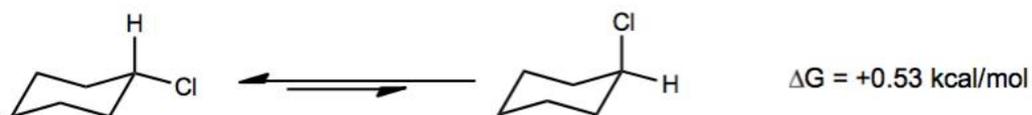
- b. Quale delle due conformazioni e' piu' stabile?

- A e' piu' stabile di B
- Entrambi sono ugualmente stabili
- B e' piu' stabile di A

8. Per la seguente molecola disegnate le due conformazioni a sedia e indicate quella piu' stabile. Motivate brevemente la scelta.



9. Considerate i seguenti ' $\Delta G$  values' dei cicloesani sostituiti con un solo alogeno.



Potrebbe essere sorprendente che i valori siano così simili. Identificate **due fattori** che competono e spiegate brevemente