

CHEM HELP *ASAP*

Organic Chemistry Problem Set Solutions

Drawing Cyclohexane Chairs

Instructions: For each substituted cyclohexane below, draw both chair conformations and select the one that is more stable.

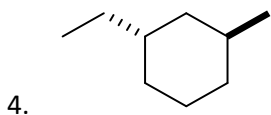
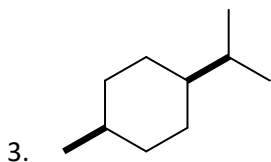
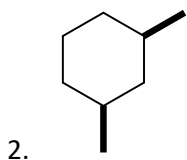
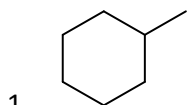
Suggested playlist:

<https://www.youtube.com/watch?v=SgOgHAdeDkl&list=PLIzSRqjN72jf5Pt1C6IDhKpp0BdPgZ6kA>
(especially videos 6-10)

YouTube video of answered questions:

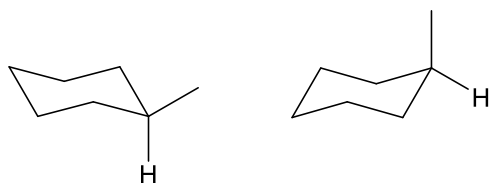
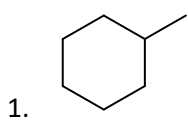
<https://youtu.be/pVgO5v94J3g>

Questions:

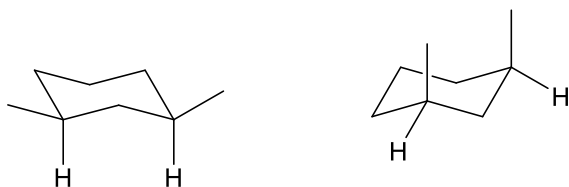
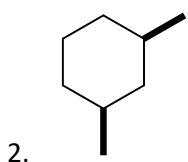


5. *trans*-1,4-dimethylcyclohexane

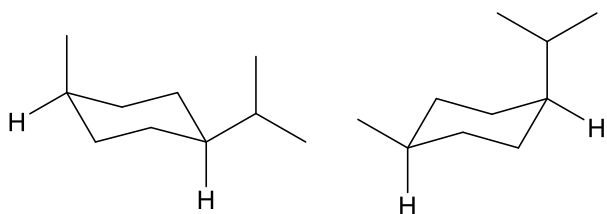
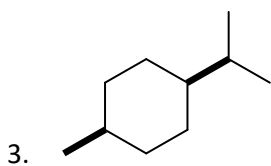
Solutions:



The left conformation is more stable because the methyl group is equatorial.

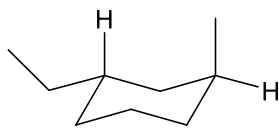
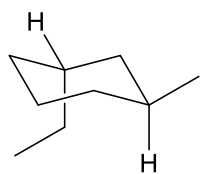
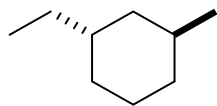


The left conformation is more stable because both methyl groups are equatorial.



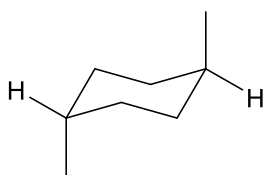
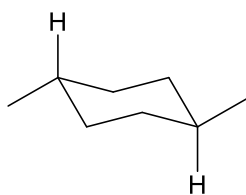
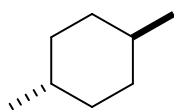
The left conformation is more stable. Both conformations have one R-group axial and the other equatorial. In the left structure, the larger R-group is equatorial.

4.



The right conformation is more stable. Both conformations have one R-group axial and the other equatorial. In the right structure, the larger R-group is equatorial.

5. *trans*-1,4-dimethylcyclohexane



The left conformation is more stable because both methyl groups are equatorial.