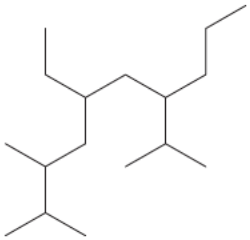
Description / Instructions: Kapittel 4 og 5

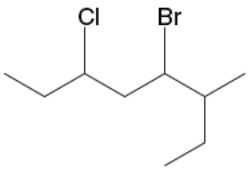
1. Problem 4.24

Give systematic IUPAC names for each of the following:

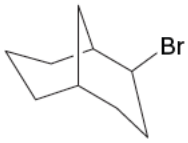
(a)



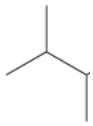
(c)



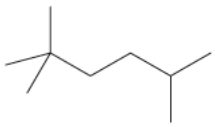
(e)



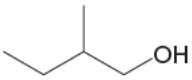
(g)



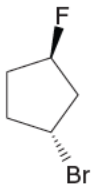
(b)



(d)



(f)



(h)

a)

b)

c)

d)

e)

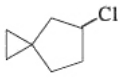
f)

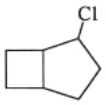
g)

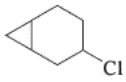
h)

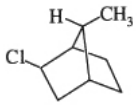
2. Problem 4.29c

Select the picture of 2-chlorobicyclo[3.2.0]heptane.

a. 

b. 

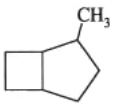
c. 

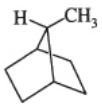
d. 

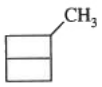
Answer: _____

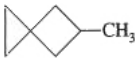
3. Problem 4.29d

Select the picture of 7-methylbicyclo[2.2.1]heptane.

a. 

b. 

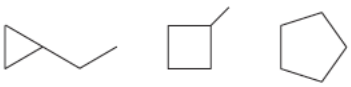
c. 

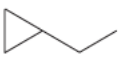
d. 

Answer: _____

4. Problem 4.36

Rank the following compounds in order of increasing stability based on relative ring strain.





is [ ] because it has [ ] ring strain.

is [ ] because it has [ ] ring strain.

 is [ ] because it has [ ] ring strain.

5. Problem 4.41

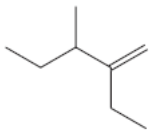
Which compound would you expect to be the more stable: cis-1,2-dimethylcyclopropane or trans-1,2-dimethylcyclopropane? Explain your answer.

[ ] will be more stable because it is has [ ] crowding between its methyl groups. Or more simply it is [ ]

6. Visualization Animation: Nomenclature Alkenes Question 01

Please view Visualization Animation: Nomenclature Alkenes, then answer the following questions.

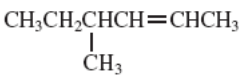
Which is the correct IUPAC name for the following molecule?



a. 2-ethyl-3-methylpent-1-ene
b. 3-methyl-4-ethylpent-4-ene
c. 2,3-diethylbut-1-ene

Answer: _____

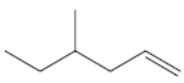
Which is the correct IUPAC name for the following molecule?



a. 3-methylhex-4-ene
b. 4-methylhex-2-ene
c. 4-methylheptene
d. 3-methylhexane

Answer: _____

Choose the equivalent condensed structural formula for the following line structure:



a. C_6H_{13}

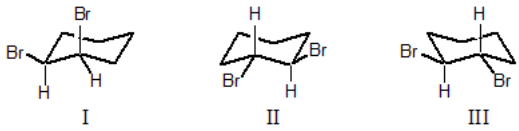
b. C_7H_{13}

c. C_7H_{14}

Answer: _____

7. Testbank Question 73

trans-1,2-Dibromocyclohexane is represented by structure(s):



a. II and III

b. I

c. II

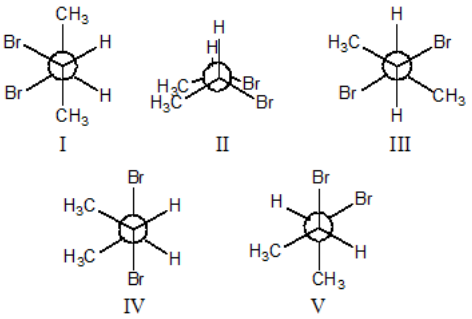
d. I and II

e. III

Answer: _____

8. Testbank Question 51

The most stable conformation of 2,3-dibromobutane, viewed through the C-2—C-3 bond :



a. I

b. II

c. III

d. IV

e. V

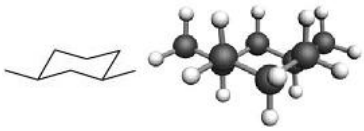
Answer: _____

9. Skill Building Exercise: Electrons take up Space/ Problem 2

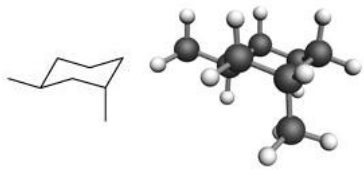
Which compound will be the least stable (possess the highest potential energy)?

a.

b.



c.

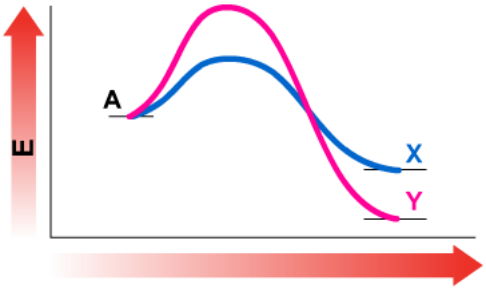


d.

Answer: _____

10. Skill Building Exercise: Energy Diagrams in Conformational Analysis/ Problem 2

Consider the following energy diagram, which depicts two possible reactions for compound A.



As seen above, these two pathways lead to different products. One pathway leads to Product X, while the other pathway leads to product Y.

Assuming that we raise the temperature so that an equilibrium can be established between A, X and Y, can you predict which product will predominate at equilibrium? X or Y?

a. Y
b. X

Answer: _____

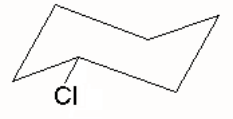
Which product will be formed more rapidly?

a. Y
b. X

Answer: _____

11. Prelecture, Question 9

Indicate whether the chloro group in this chlorocyclohexane is axial or equatorial.



a. Equatorial
b. Axial

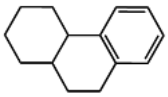
Answer: _____

12. Prelecture, Question 10

How many double bond equivalents are contained in a compound with a molecular formula of C_5H_{12}? Give a number.

13. Testbank Question 125

What is the index of hydrogen deficiency (or degree of unsaturation) of the following compound?

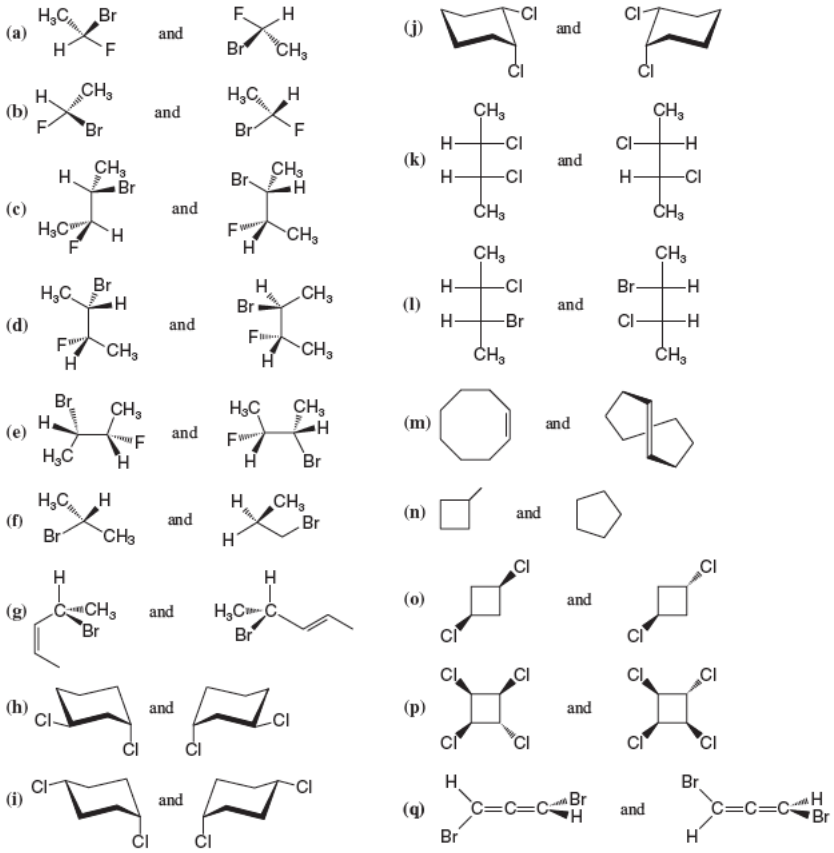


a. 3
b. 4
c. 5
d. 6
e. 7

Answer: _____

14. Problem 5.40

Consider the following pairs of structures and identify the relationship between them by describing them as representing enantiomers, diastereomers, constitutional isomers, or two molecules of the same compound.



Which of the above are enantiomers?

a. A
b. B
c. C
d. D
e. E
f. F
g. G
h. H
i. I
j. J
k. K
l. L
m. M
n. N
o. O
p. P
q. Q

Answer: _____

Which of the above are diastereomers?

a. A
b. B
c. C
d. D
e. E
f. F
g. G
h. H
i. I
j. J
k. K
l. L
m. M
n. N
o. O
p. P
q. Q

Answer: _____

Which of the above are constitutional isomers?

a. A
b. B
c. C
d. D
e. E
f. F
g. G
h. H
i. I
j. J
k. K
l. L
m. M
n. N
o. O
p. P
q. Q

Answer: _____

Which of the above are the same compound?

a. A
b. B
c. C
d. D
e. E
f. F
g. G
h. H
i. I
j. J
k. K
l. L
m. M
n. N
o. O
p. P
q. Q

Answer: _____