What is the relationship of the following compounds?

A. Enantiomers
B. Diastereomers
C. The Same Compound
D. None of the above
Exam 1 Distribution

Chem 233, Summer 2016

Count: 78
Average: 89.7%
Max: 100.0%
Min: 54.0%
Exam 2

- **Time:**
  - Monday, **June 6 @ 10:30 AM**
  - There are no alternate exam arrangements

- **Location — Soc/Anthro Testing Center**

- **Practice Exams are Posted**
  - B4-04-90 Exam 2A (Practice)
  - B4-04-91 Exam 2 with Drawing (Practice)

- **YouTube Tutorials will be turned off at 10:00 am on Monday, June 6 and will remain off.**
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Define the configuration of the chiral carbon atoms below using the Cahn-Ingold-Prelog System

2016-05-31 Q2

A. R,R-
B. R,S-
C. S,R-
D. S,S-
E. Cis-
F. Trans
Alkenes

The bond has 2 implications:
1. σ bonds are held out for bonding
2. No free rotation about bond

So kcal/mol for rotation
2 different compounds
cis trans

Same compound
If $A \neq B$

AND $c \neq d$

Then cis/trans

Naming E/Z

① A / \ C ①

② B / \ D ②

If Is are on same side
then (Z) "Zusammen" together
"cis"

If Is are on opposite side
then (E) "entgegen" opposed
"trans"
Which of the following alkenes have E/Z behavior?

A

B

C

D

E

2016-05-31 Q2

1464
(E)-8-methyl-3-nonen e
(E)-8-methylnon-3-ene

methyl propene

1-methylcyclohexene

3-methylcyclohexene

The alkene must be carbons 1+2
Give an IUPAC name for the following compound.

A. 3-chloro-4,5-dimethyl-4-hexene
B. 4,5-dimethyl-3-chloro-4-hexene
C. 3-chloro-4,5-dimethylhexene
D. 2,3-dimethyl-4-chloro-2-hexene
E. 4-chloro-2,3-dimethyl-2-hexene
F. None of the above are correct
Assign the following compound as either E- or Z-

A. E-3-chloromethyl-4-ethyl-2-methyl-3-octene
B. Z-3-chloromethyl-4-ethyl-2-methyl-3-octene
Give an IUPAC name for the following compound.

\[ \text{(Z)}-2\text{-bromo-2-butene} \]
Give an IUPAC name for the following compound.

A. 2,4-dimethylcyclohexene
B. 1,5-dimethylcyclohexene
C. 1,3-dimethyl-3-cyclohexene
D. 2,4-dimethyl-1-cyclohexene
E. 1,5-dimethyl-1-cyclohexene
F. None of the above are correct

2016-05-31 Q7 7581
Reactions of Alkenes with HX

Carbocation stability

Benzyllic, Allylic > 3° > 2° > 1° > vinyl

"Resonance"
\[ \text{Choice A} \]

\[ \text{Choice B} \]

2° C° preferred

Bad  
2° Charges  
Side by Side