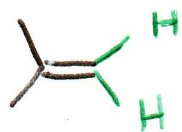
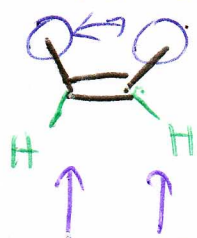


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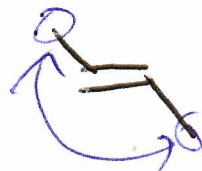
#1



When an alkene has two of the same substituent on the same side, there is only one unique configuration of that alkene, so it cannot be described as cis/trans or E/Z.



Cis -
same face



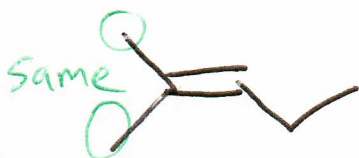
trans -
opposite face

two different substituents on each side (Z)

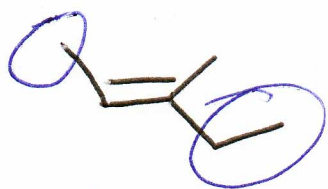
cis/trans are relative configurations (E)

The terms cis + trans are appropriate because only two substituents are being compared.

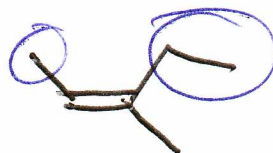
E + Z are absolute (not relative) configurations. The configuration is determined by identifying the most important substituent on either side of the double bond. (using the Cahn-Ingold-Prelog. rules)



not cis/trans or E/Z (even though it has 3 substituents)



E



Z

* cis and trans cannot be used since more than two groups are being compared.

no cis/trans
no E/Z

hex-1-ene



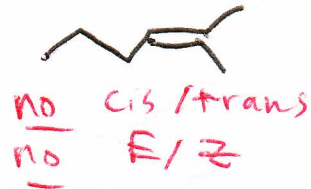
✓ cis/trans
✓ E/Z

cis-hex-2-ene
(Z)-hex-2-ene

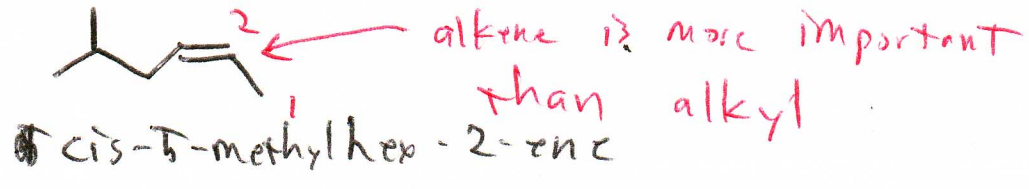


✓ cis/trans
✓ E/Z

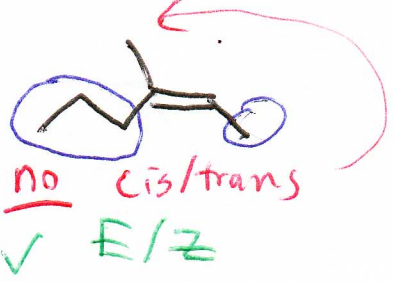
trans-hex-2-ene
(E)-hex-2-ene



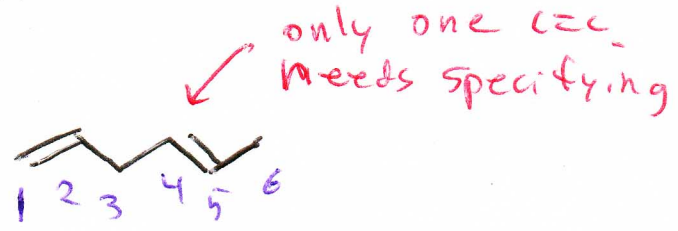
2-methylhex-2-ene



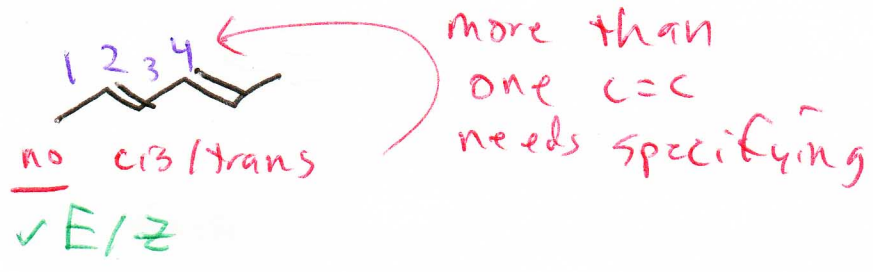
(Z)-5-methylhex-2-ene



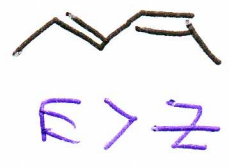
(Z)-3-methylhex-2-ene



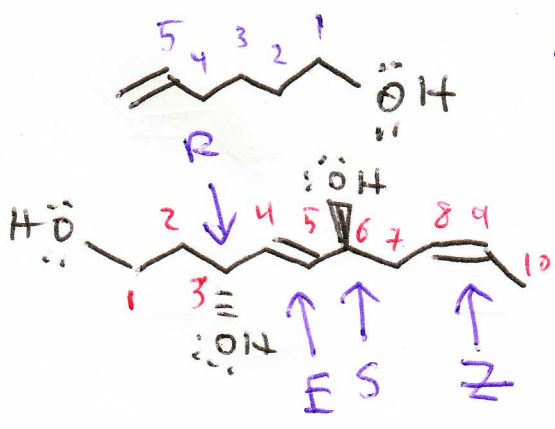
(E)-hexa-1,4-diene



(2E,4E)-hexa-2,4-diene



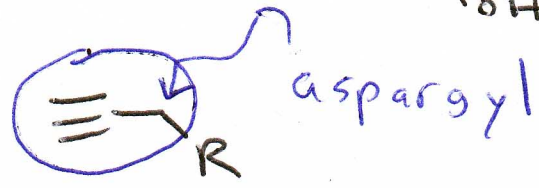
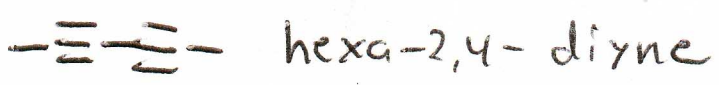
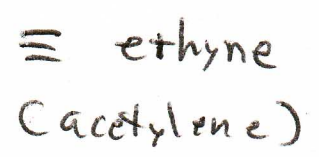
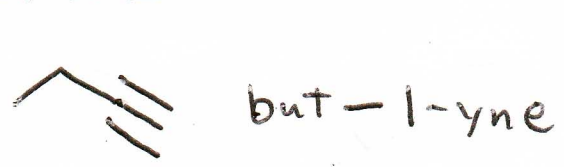
(2E,4Z)-hexa-2,4-diene

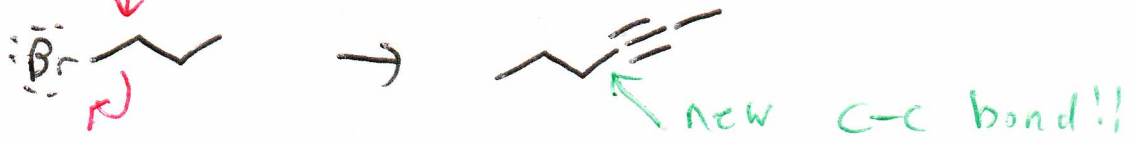
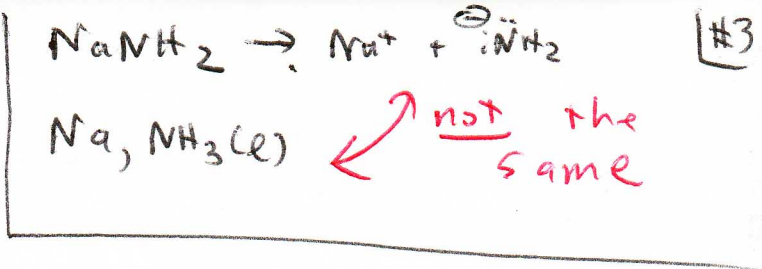
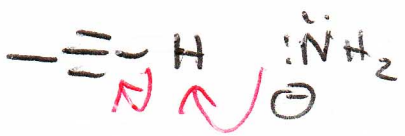


alcohol > alkene
hex-5-en-1-ol

(3R,4E,6S,8Z)-deca-4,8-dien-1,3,6-triol

Alkynes





Only works w/ 1° substrates)

