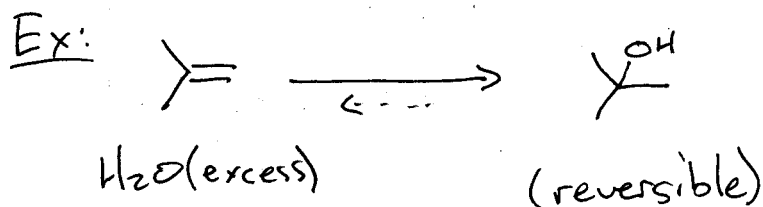


Course Chem 343Lecturer Gellman IIADay MondayDate 10-3-11Notes Taken By DerekTotal # of Pages 4Submit a *Single-sided Copy* to the Office

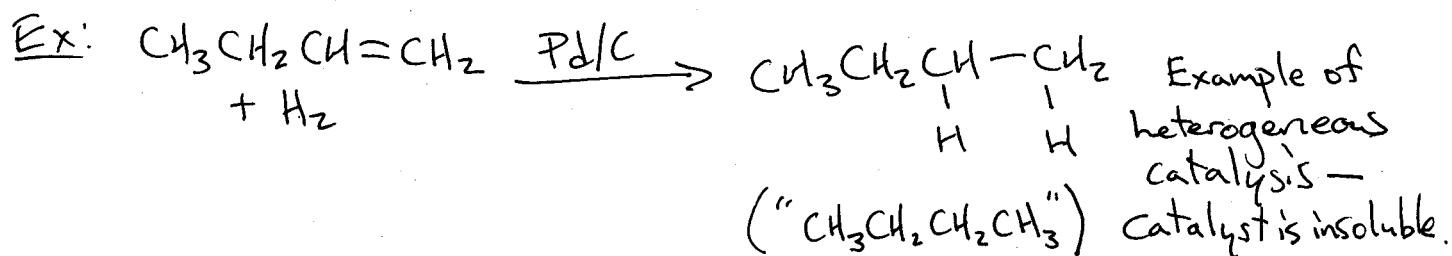
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Exam 1 on Wed. Last names A-K (and some L's) in Ingraham
Review tomorrow @ 5pm (see website)

Recall: catalysis of addn reactions to alkenes
E.g. Acid-catalyzed hydration



Another example - hydrogenation of alkenes...
(adding H_2 across double bonds)



Contrast: Homogeneous catalysis (all species, including catalyst, dissolved).

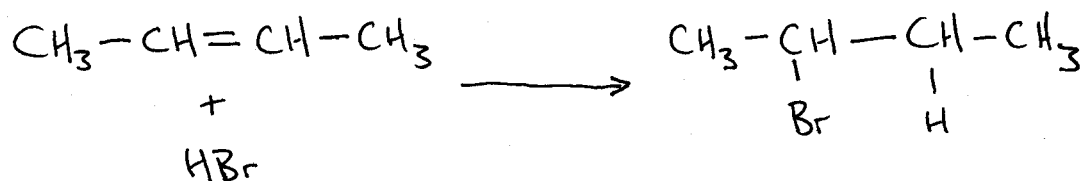
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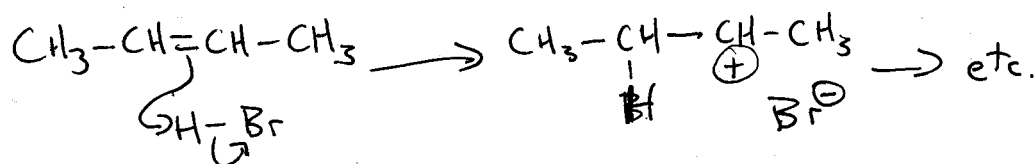
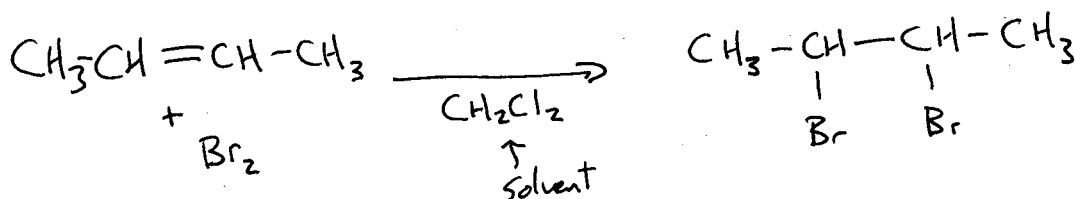
Ch. 5 - (Further) add'n reactions of alkenes

Rec. Problems: 1-22, 27-38, 40, 45-52.

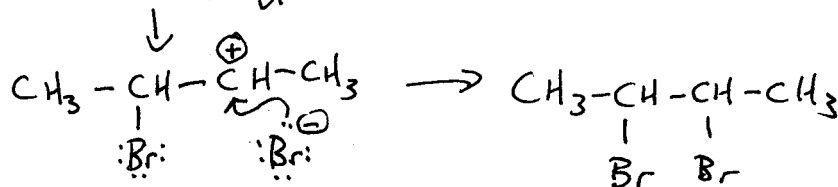
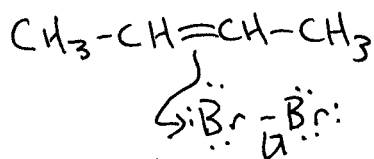
Recall HX add'n



Mech:

New add'n. Br₂ as electrophile (also Cl₂).

Hypothesis #1 - follow HX add'n pattern.



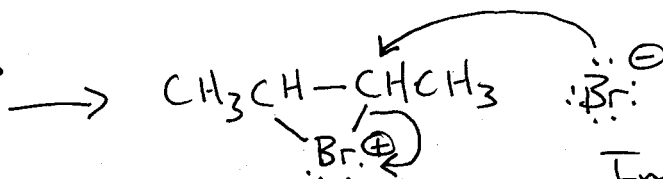
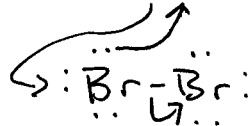
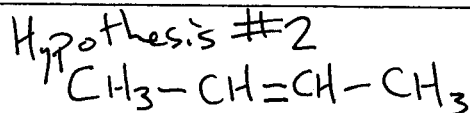
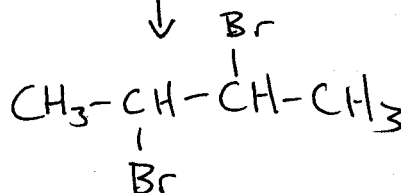
When two electronegative atoms are bound to each other, typically a recipe for reactivity

NOT ~~the~~
the correct mechanism!

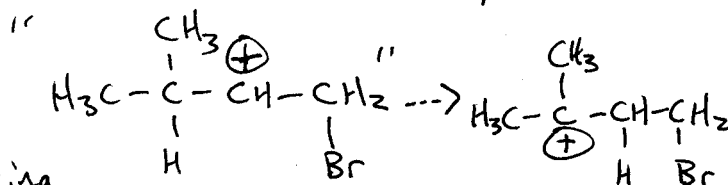
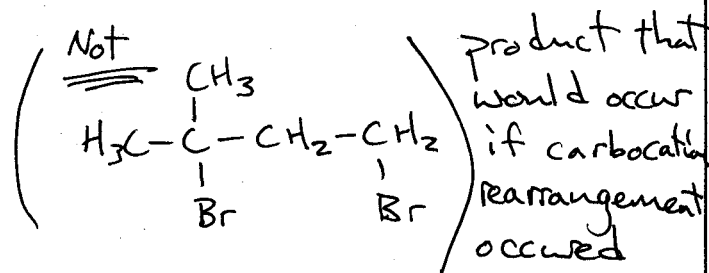
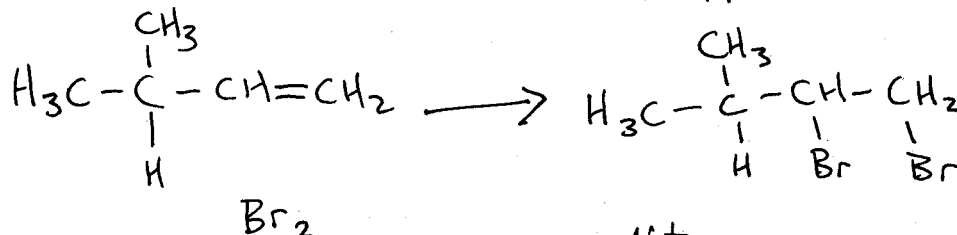
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Hypothesis #2

Intermediate!
"Bromonium"

Observation that invalidates #1 (supports #2).



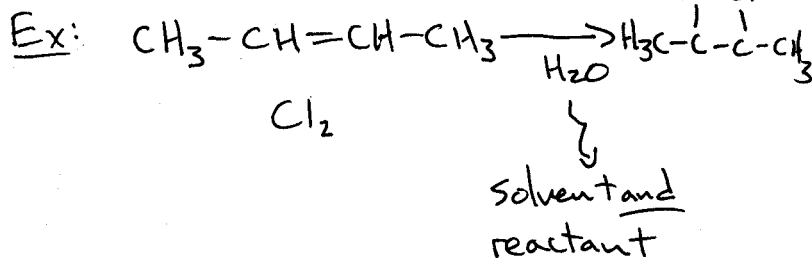
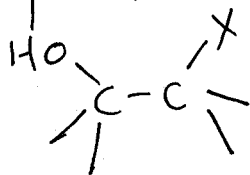
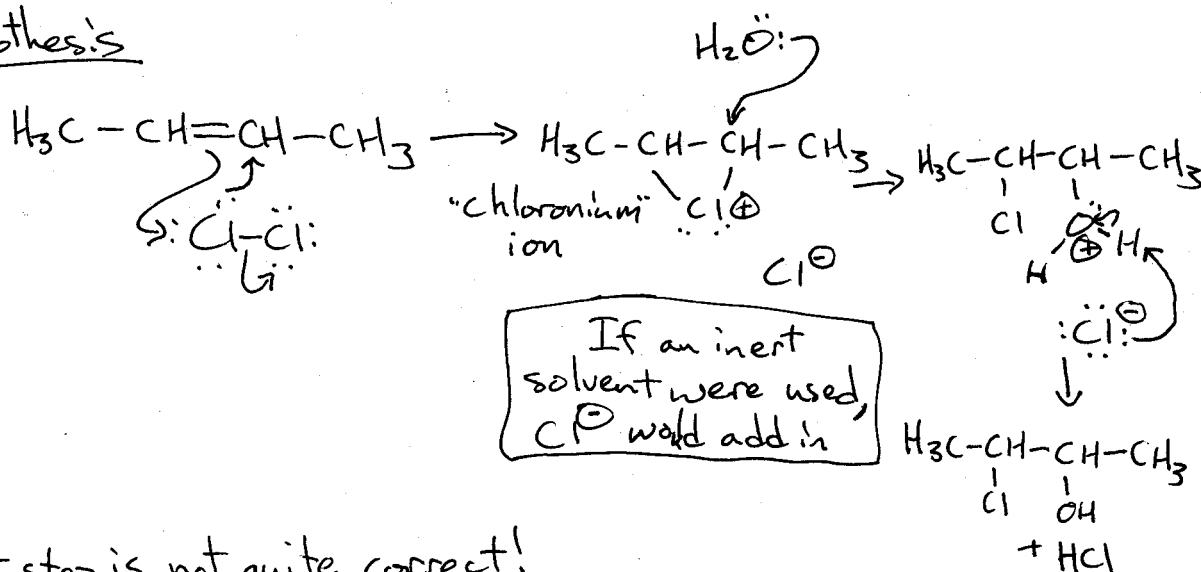
Conclude Hyp #2 (i.e. process involving bromonium intermediate) is most consistent w/ observations.

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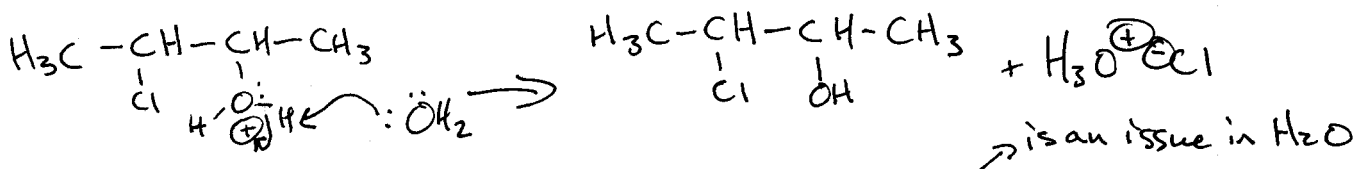
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Related Rxn - "halohydrin formation"

Halohydrin:

Mech. HypothesisNote: Last step is not quite correct!pKa = -6 $\text{H} - \text{Cl}$ — stronger acidpKa = -2 $\text{H} - \text{OH}_2^+$

Cl^-
 VS
 OH_2^- stronger base

More correct last step:Unsymmetrical Alkene? No issue of regiochemistry for Cl_2 or Br_2 in CH_2Cl_2