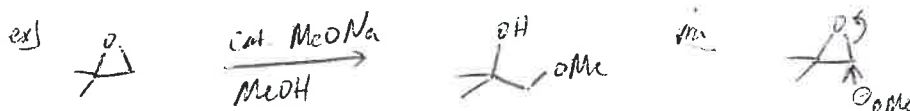


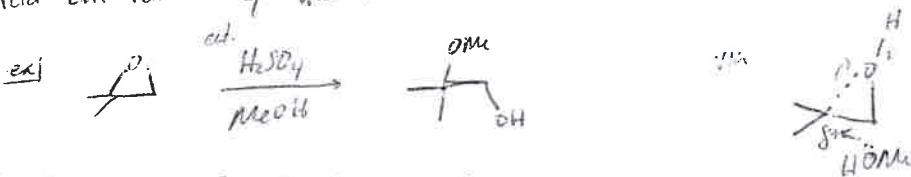
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Recall: Epoxide reactions w/ nucleophiles...

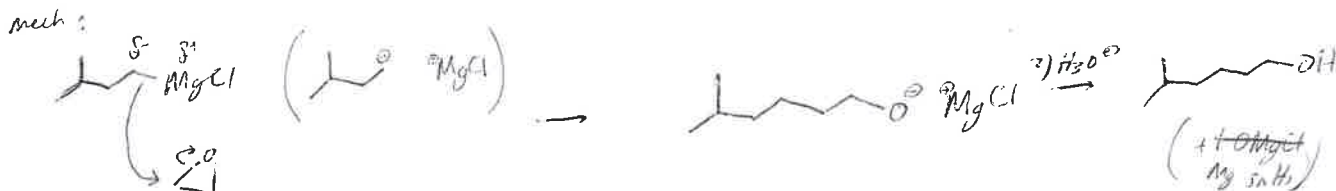
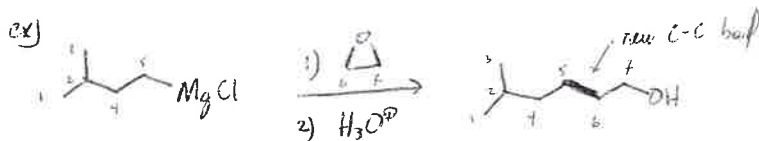
1) SN2 w/ alkoxides



2) Acid cat. reaction w/ alcohols

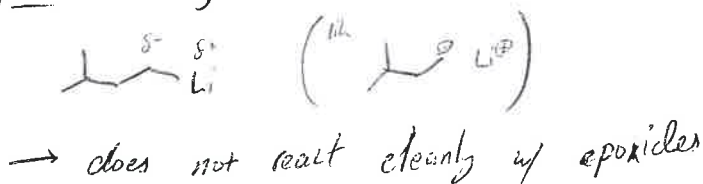


3) Reactions w/ organometallic reagents (form C-C bonds)



Comments:

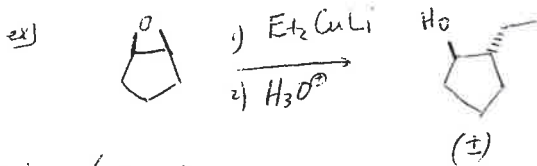
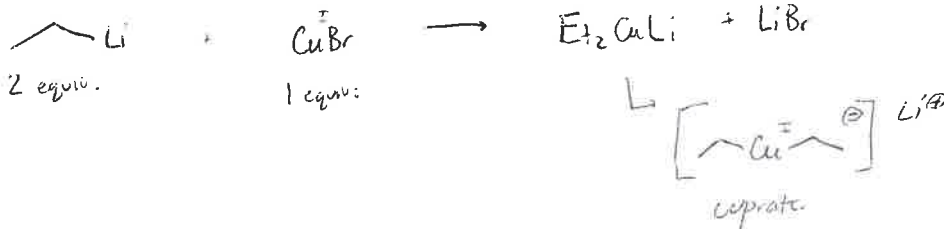
1. as Lewis base, epoxide oxygen coordinates magnesium to enhance electrophilicity
2. H_3O^+ - mildly acidic conditions to ~~not~~ protonate alkoxide
3. Recall: organolithium reagents



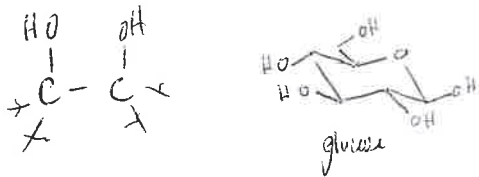
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4. Convert organolithium reagents to organocuprate reagents and get efficient epoxide openings

ex)



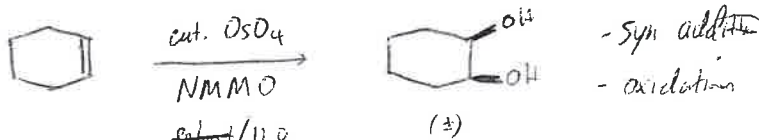
1,2-Diols (glycols)



Synthesis of 1,2-diols: (complementary methods)

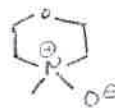
1. OsO_4

ex)

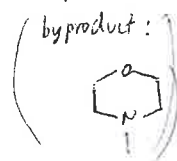


notes:

stoichiometric oxidant is NMO:

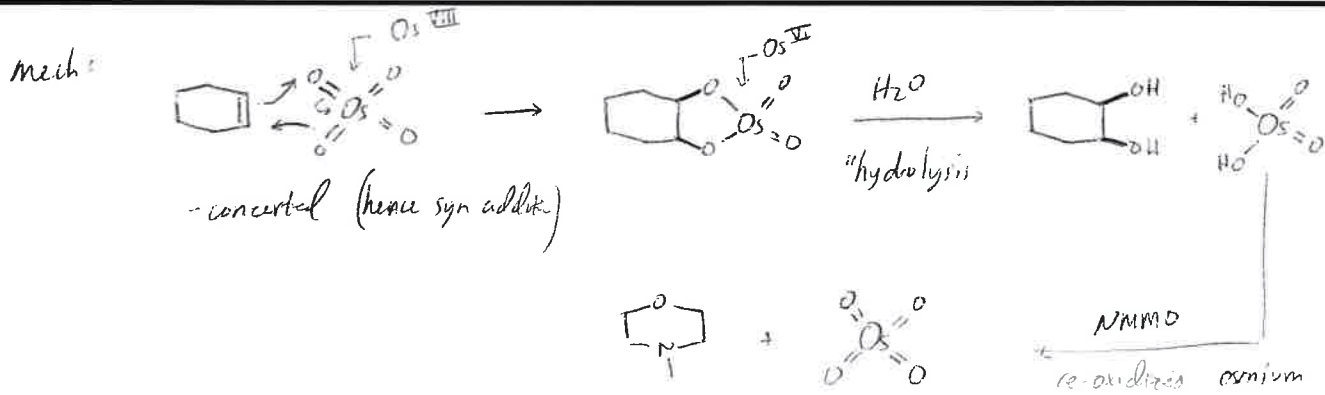


- an example of N-oxide



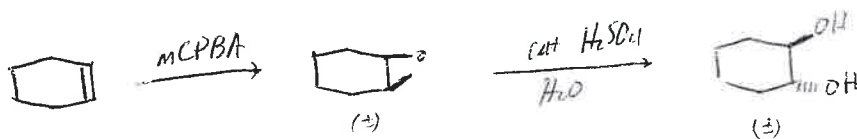
Course Chem 343 Lecturer Gellman
 Day W Date 11/24/14
 Notes Taken By SLJ Total # of Pages 3

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2) Epoxide ring opening w/ H_2O

ex)



trans product due to
~~anti~~ anti addition sp^2

Read Section 11.11 - Categorization of Reactions