Due Ocr. 5, 5, 2012 $^{2}$
Assigntment \#1

1. Suggest the most reasonable product(s) of the momboming tram sformati Show stereochemical asarets where appropriate and give the rationale por any non - trivial aspects. Plense Show any intermediates thut cound be isolatet
a)


.) $\mathrm{T} \cdot \mathrm{Cl}_{4}, \mathrm{CH}_{2} \mathrm{Cl}_{2}$


3) $\mathrm{H}_{2} \mathrm{O}$
4) $\mathrm{H}^{+}, 4$
b)

5) $\mathrm{H}_{2} \mathrm{O}$

6) $\mathrm{H}_{2}, \mathrm{Pd}$
d)

7) $\mathrm{H}_{2} \mathrm{O}$
e)

8) 1 BuL, ThF $-20^{\circ}$
9) $\mathrm{Ph} \sim \mathrm{Br}$
(I)
(B)
${ }^{n} P_{4}+\mathrm{R}_{4} \mathrm{OH}_{4}$ (cmr)

$\mathrm{CH}_{2} \mathrm{Cl}_{2}$, $4 A^{\circ}$ Sieyes

(D)
10) $\mathrm{TiCl}, \mathrm{H}_{2} \mathrm{O}$

STREOCHITISTRY HERE
(H) is impormat
2) lequin $\mathrm{MnO}_{2}$ $\mathrm{CH}_{2} \mathrm{Cl}_{2}$

1) $\frac{0}{\mathrm{CH}_{2} \mathrm{Cl}_{2},-78^{\circ}}+\underset{\mathrm{S}}{0} \mathrm{O}$
2) $A O D$ I
$\square$
3) $\mathrm{E}_{3} \mathrm{~N}$, war $\rightarrow R T$
4) $\mathrm{He}_{3} \mathrm{Si}-\mathrm{CN}, \mathrm{BF}_{3} \cdot \mathrm{OEF}_{2}, \mathrm{CH}_{2} \mathrm{Cl}_{2}$
5) $\mathrm{H}_{2} \mathrm{O}$
6) Propose reasonable sYnthesis of the indicated compounds from the given STARTING MATERIALS UNLESS STATED, YOU MAY USE AMY OTHER REAGENTS YO L DEA FIT, ALTHOUGH THESE QUESTIONS WERE DESIGNED TO USE TITIS COURSE' CONCEPTS. SHOW ALL REAGENTS, SUITABLE CONDITIONS, AND AMY INTERMEDIATE THAT COULD BE SOLATED. EXPLAIN ANY NON-TRINIAL POINTS SUCHAAS STEREOCHEMICAL OR REGIOCHEMICAL FEATURES.
a)

b)

c)



$\qquad$





d) Group on ALDEHYDE

This is ENVISIONED AS Going THROUGH A 1,2 . Dicarsonvi. ALTERNATIVE IDEAS WELCOM

1. Suggest the most reasonable product (s) of the rollowing transformatio. SHOW STEREOCHEMICAL ASAECTS WHERE APPROPRIATE AND GIVE THE RATIONALE FOR any non- trivinl aspects. Plense Show any intermediates that could be isolated,
a).


b)

(c) 7) $\mathrm{H}_{3} \mathrm{C}-\mathrm{NO}_{2}$ $\xrightarrow{\text { iPraHE }}$
2) $\mathrm{TiCl}_{3}, \mathrm{H}_{2} \mathrm{O}$
$\mathrm{CH}_{2} \mathrm{Cl}_{2}, 4 A^{\circ}$ Sieves
3) $\mathrm{H}_{2} \mathrm{O}$
c)

4) $\mathrm{H}_{2}, \mathrm{Pd}$
d)

.) Zequiv Meli $\xrightarrow{T+\mathcal{F},-78^{\circ}}$ (G)
5) Pdon $\mathrm{CaCO}_{3}$

Pbo, Quinonne
2) lequin $\mathrm{MnO}_{2}$.

$$
\mathrm{Ci}_{2} \mathrm{Cl}_{2}
$$

3) $\mathrm{H}_{2} \mathrm{O}$

e)

4) $\mathrm{Ph} \rightarrow \mathrm{Br}$
5) ${ }^{\text {PBuL: THF, }}-20^{\circ}$
6) $\sim_{H}$
7) $\mathrm{H}_{2} \mathrm{O}$

STEREOCHIMISTRY HERE is impormat
2) Propose reasonable synthesis of the indicated compounds from the given STARTING MATERIALS UNLESS STATED, YOU MAY USE ANY OTHER REAGENTS YOU DEEM FIT, ALTHOUGH THESE QUESTIONS WERE DESIGNED TO USE TITIS COURSE'S CONCEPTS. SHOW ALL REAGENTS, SUITABLE $C O$ eDITIONS, AND ANY INTERMEDIATE THAT COULD BE ISOLATED. EXPLAIN ANY NON-TRINIAL POINTS, SUCITAS STEREOCHEMICAL OR REGIOCHEMICAL FEATURES.
a)

b)



THIS is Envisioned as Going THROUGH A 1,2-DICNRBOAY ALternative ideas welcome
c)


d)

NOTE: BIG Group an ALDEATIE




I Am Presuming This is THE STEREOCHEM, YOU'S GET.

