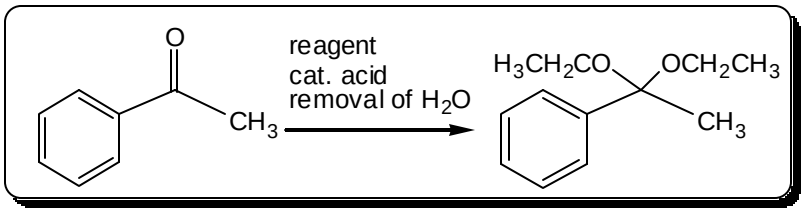
Chem 2300
Final Exam-practice

December 3, 2001

I. Multiple choice questions. The final exam will have 30 multiple choice questions (90 points total) from the previous exams including **problems in your textbook**, exam 1, exam 1-practice, exam 2, exam 2-practice, exam 3 and exam 3-practice, and the following questions.

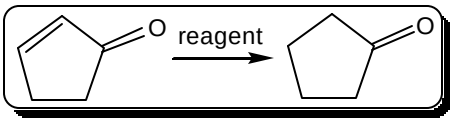
Select a correct reagent, reactant, or product for the following reactions. You may select "none of the above" when you think there is no single correct answer or "all of the above" when all of the provided answers are correct.

( ) 1.



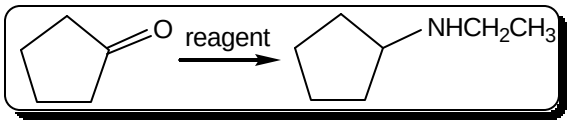
(a) CH_3OH (b) CH_3CH_2OH
(c) CH_3COCH_3 (d) $HOCH_2CH_2OH$
(e) none of the above

( ) 2.



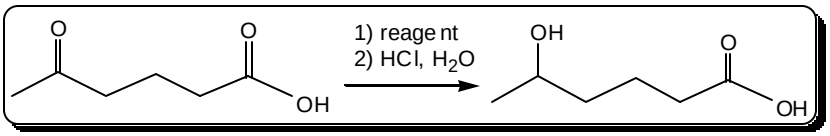
(a) $HCrO_4$ (b) H_2 (1 atm), Pt (c) $NaBH_4$
(d) RCO_3H (e) none of the above

( ) 3.



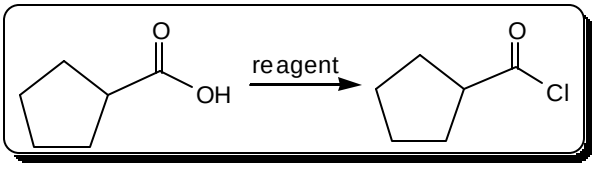
(a) H_2NEt then $HCrO_4$ (b) H_2NEt then H_2, Pd
(c) H_2NEt then RCO_3H (d) H_2NEt then CH_3MgBr
(e) none of the above

( ) 4.



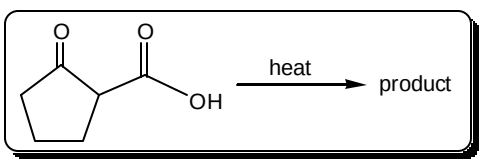
(a) $LiAlH_4$ (b) H_2 (1 atm), Pt (c) $NaBH_4$
(d) mCPBA (e) none of the above

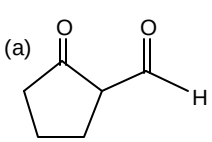
( ) 5.

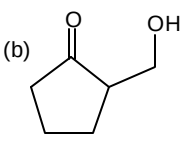


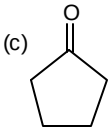
(a) CH_3OH (b) $SOCl_2$
(c) CH_3COCl (d) $ClCH_2CH_2Cl$
(e) none of the above

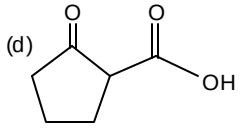
( ) 6.



(a) 

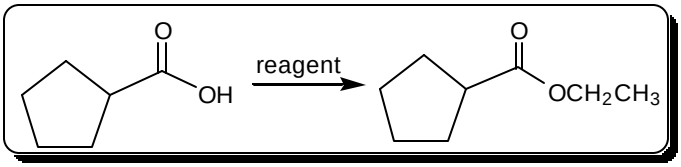
(b) 

(c) 

(d) 

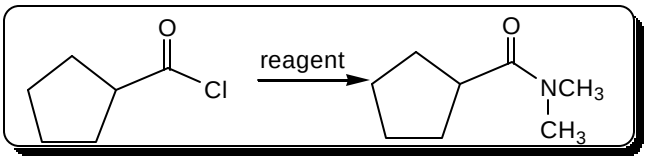
(e) none of the above

( ) 7.



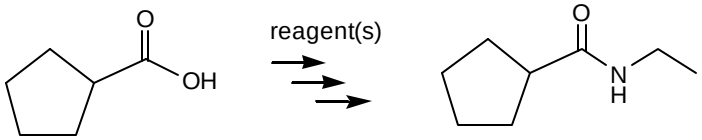
(a) $CH_3OH/NaOH$ (b) CH_3CH_2OH/H_2SO_4
(c) CH_3OH/H_2SO_4 (d) $CH_3CH_2OH/NaOH$
(e) none of the above

( ) 8.



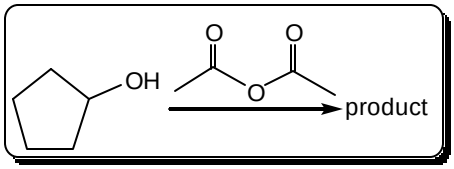
(a) CH_3OH (b) CH_3NH_2
(c) $(CH_3)_2NH$ (d) H_2O
(e) none of the above

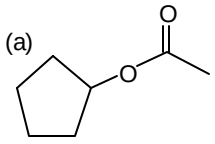
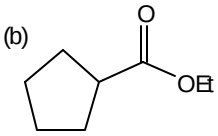
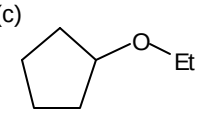
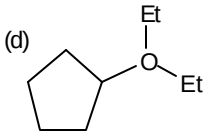
( ) 9.



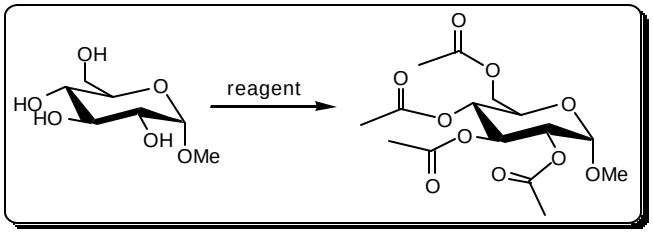
(a) $CH_3CH_2NH_2$ then H_2, Ni (b) $CH_3CH_2NH_2$ then $SOCl_2$ (c) $SOCl_2$ then $CH_3CH_2NH_2$
(d) HCl then $CH_3CH_2NH_2$ (e) none of the above

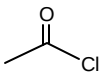
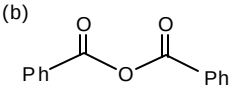
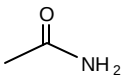
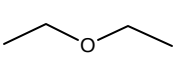
( ) 10.



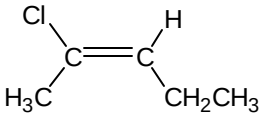
(a) 
(b) 
(c) 
(d) 
(e) none of the above

( ) 11.



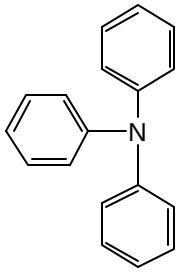
(a) 
(b) 
(c) 
(d) 
(e) none of the above

( ) 12. What's the IUPAC name for the following compound?



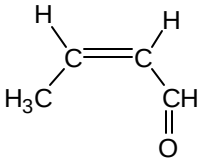
(a) *cis*-2-Chloro-2-pentene
(b) *trans*-2-Chloro-2-pentene
(c) *(E)*-2-2-Chloro-2-pentene
(d) *(Z)*-2-Chloro-2-pentene
(e) None of the above

( ) 13. What's the IUPAC name for the following compound?



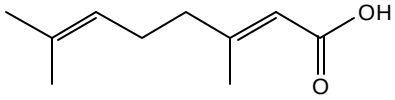
(a) Tribenzylamine
(b) Triphenylamine
(c) Triaromaticamine
(d) Triaminobenzene
(e) None of the above

( ) 14. What's the IUPAC name for the following compound?



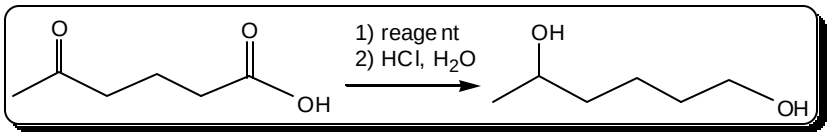
(a) *cis*-2-Butenal
(b) *trans*-2-Butenal
(c) *cis*-2-Butenaol
(d) *trans*-2-Butenol
(e) None of the above

( ) 15. What's the IUPAC name for the following compound?



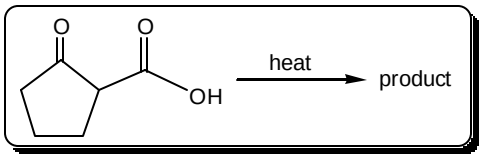
(a) *(2E,6E)*-3,7-Dimethyl-2,6-octadienoic acid
(b) *(2Z,6E)*-3,7-Dimethyl-2,6-octadienoic acid
(c) *(2E,6E)*-2,6-Dimethyl-2,6-octadienoic acid
(d) *(2Z,6E)*-2,6-Dimethyl-2,6-octadienoic acid
(e) None of the above

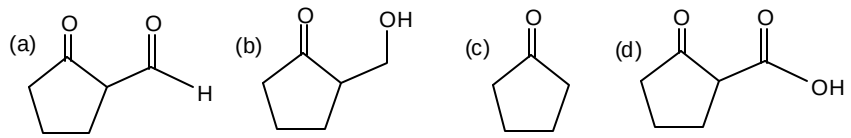
( ) 16.



(a) $LiAlH_4$ (b) H_2 (1 atm), Pt (c) $NaBH_4$
(d) mCPBA (e) none of the above

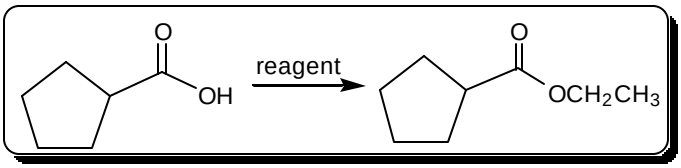
( ) 17.





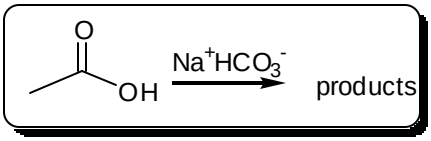
(e) none of the above

( ) 18.



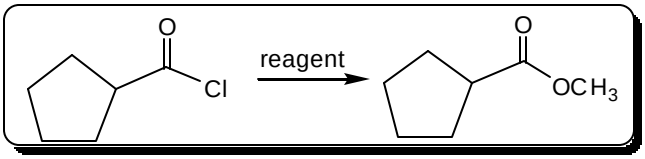
(a) $CH_3OH/NaOH$ (b) CH_3CH_2OH/H_2SO_4
(c) CH_3OH/H_2SO_4 (d) $CH_3CH_2OH/NaOH$
(e) none of the above

( ) 19.



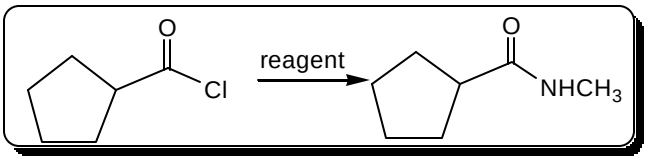
(a) $CH_3CO_2^-$ (b) Na^+
(c) CO_2 (d) H_2O
(e) all of the above

( ) 20.



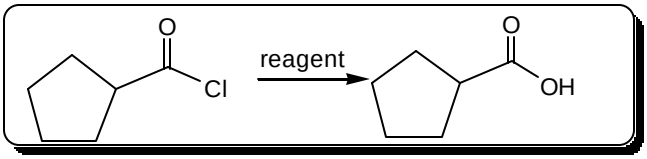
(a) CH_3OH (b) $SOCl_2$
(c) CH_3COCl (d) $ClCH_2CH_2Cl$
(e) none of the above

( ) 21.



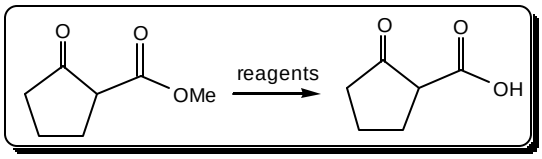
(a) CH_3OH (b) CH_3NH_2
(c) CH_3CO_2H (d) H_2O
(e) none of the above

( ) 22.



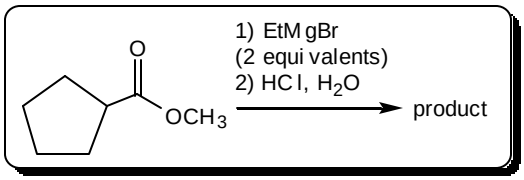
(a) CH_3OH (b) CH_3NH_2
(c) CH_3CO_2H (d) H_2O
(e) none of the above

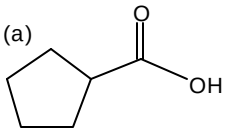
( ) 23.

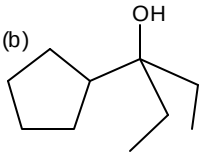


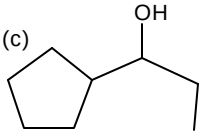
(a) NaOMe then HCl, H_2O (b) NaOH then HCl, H_2O
(c) $NaBH_4$ then HCl, H_2O (d) $NaHCO_3$ then HCl, H_2O
(e) none of the above

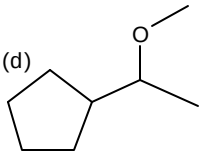
( ) 24.



(a) 

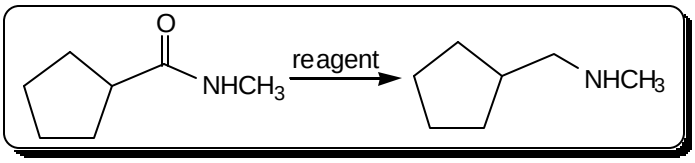
(b) 

(c) 

(d) 

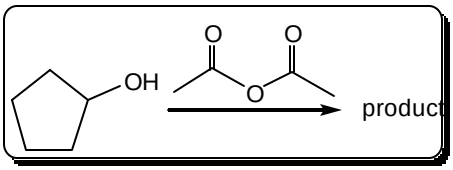
(e) none of the above

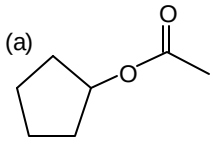
( ) 25.

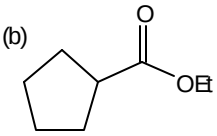


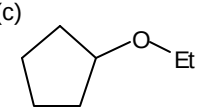
(a) $LiAlH_4$ (b) $NaBH_4$
(c) H_2 (1 atm), Pd (d) $NaBH_3CN$
(e) none of the above

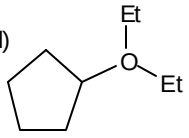
( ) 26.



(a) 

(b) 

(c) 

(d) 

(e) none of the above

II. Similar question to the question in II of exam 3 (30 points)

III. Question related to reaction mechanism (10 points)

IV. Question related electron-pushing mechanism (10 points)