

# *Chem 41c Quiz 6*

Stoltz, Spring 2007

May 25, 2007

Due May 30, 2007 9:55 AM

You have 25 min to take this quiz. It is closed note, closed book, and no collaboration is allowed. Please do not discuss the quiz with anyone until you receive it back graded. Please **BOX** your answer for each question.

*Do Not Open until you are Ready  
to take the Quiz. Once you open  
this you have 25 min.*

# Chem 41c Quiz 6

Stoltz, Spring 2007

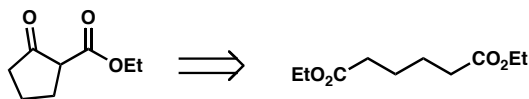
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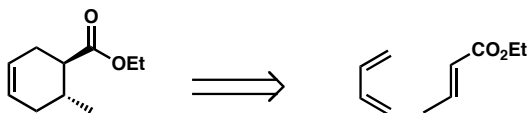
You have 25 min to take this quiz. It is closed note, closed book, and no collaboration is allowed. Please do not discuss the quiz with anyone until you receive it back graded. Please **BOX** your answer for each question.

Provide a single simplifying disconnection for the following Target Molecules. (5 points each)

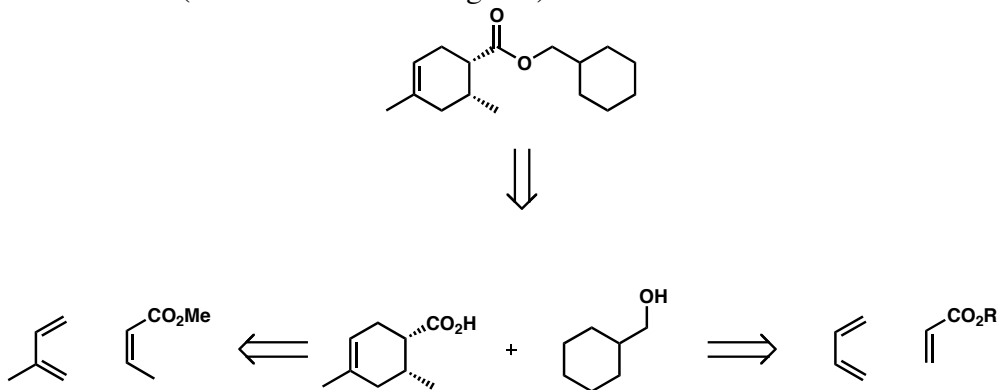
1.



2.

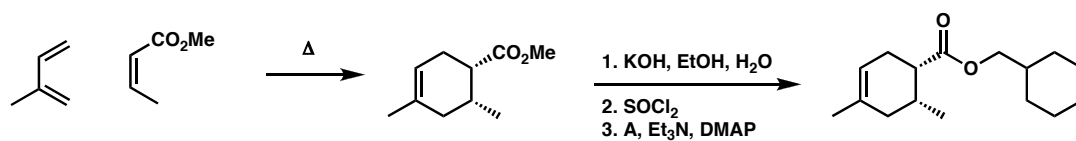
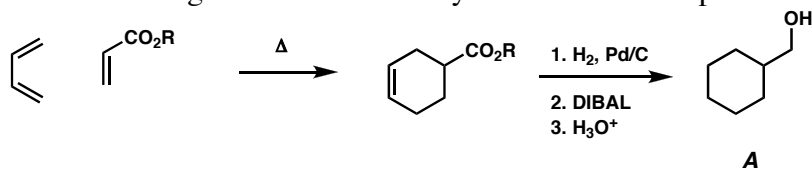


3. Provide a detailed retrosyntheses for the following Target Molecule that arrives at starting materials of **four** carbons or less. (Partial Credit will be given)



**Bonus (5 points)**

Provide reagents for a forward synthesis of the last problem. (Partial Credit will be given)



TA's: please give partial credit for #3 and the bonus.

GROUP		PERIODIC TABLE OF THE ELEMENTS																GROUP	
1 IA																		18 VIIIA	
1	1.0079																	2	4.0026
1	H																	2	He
	HYDROGEN																		
2	3 6.941	4 9.0122																	
	Li	Be																	
	LITHIUM	BERYLLIUM																	
3	11 22.990	12 24.305																	
	Na	Mg																	
	SODIUM	MAGNESIUM																	
4	19 39.098	20 40.078	21 44.956	22 47.867	23 50.942	24 51.996	25 54.938	26 55.845	27 58.933	28 58.693	29 63.546	30 65.39	31 69.723	32 72.64	33 74.922	34 78.96	35 79.904	36 83.80	
	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr	
	POTASSIUM	CALCIUM	SCANDIUM	TITANIUM	VANADIUM	CHROMIUM	MANGANESE	IRON	COBALT	NICKEL	COPPER	ZINC	GALLIUM	GERMANIUM	ARSENIC	SELENIUM	BROMINE	KRYPTON	
5	37 85.468	38 87.62	39 88.906	40 91.224	41 92.906	42 95.94	43 (98)	44 101.07	45 102.91	46 106.42	47 107.87	48 112.41	49 114.82	50 118.71	51 121.76	52 127.60	53 126.90	54 131.29	
	Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe	
	RUBIDIUM	STRONTIUM	YTTORIUM	ZIRCONIUM	NIOBIUM	MOLYBDENUM	TECHNETIUM	RUTHENIUM	RHODIUM	PALLADIUM	SILVER	CADMIUM	INDIUM	TIN	ANTIMONY	TELLURIUM	IODINE	XENON	
6	55 132.91	56 137.33	57-71	72 178.49	73 180.95	74 183.84	75 186.21	76 190.23	77 192.22	78 195.08	79 196.97	80 200.59	81 204.38	82 207.2	83 208.98	84 (209)	85 (210)	86 (222)	
	Cs	Ba	La-Lu	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn	
	CAESIUM	BARIUM	Lanthanide	HAFNIUM	TANTALUM	TUNGSTEN	RHENIUM	OSMIUM	IRIDIUM	PLATINUM	GOLD	MERCURY	THALLIUM	LEAD	BISMUTH	POLONIUM	ASTATINE	RADON	
7	87 (223)	88 (226)	89-103	104 (261)	105 (262)	106 (266)	107 (264)	108 (277)	109 (268)	110 (281)	111 (272)	112 (285)	113 (284)	114 (289)	115 (288)	116 (289)	117 (284)	118 (289)	
	Fr	Ra	Ac-Lr	Rf	Db	Sg	Bh	Hs	Mt	Uun	Uuu	Uub	Uut	Uuq	Uup	Uuh	Uus	Uuo	
	FRANCIUM	RADIUM	Actinide	RUTHERFORDIUM	DUBNIUM	SEABORGIUM	BOHRIUM	HASSIUM	MEITNERIUM	UNUNNIUM	UNUNNIUM	UNUNNIUM	UNUNNIUM	UNUNNIUM	UNUNNIUM	UNUNNIUM	UNUNNIUM	UNUNNIUM	

GROUP NUMBERS  
IUPAC RECOMMENDATION  
(1985)

GROUP NUMBERS  
CHEMICAL ABSTRACT SERVICE  
(1986)

ATOMIC NUMBER

SYMBOL

RELATIVE ATOMIC MASS (1)

ELEMENT NAME

13 IIIA

5 10.811

B

BORON

13 IIIA

14 IVA

15 VA

16 VIA

17 VIIA

18 VIIIA

5 B

6 C

7 N

8 O

9 F

10 Ne

13 26.982

14 28.086

15 30.974

16 32.065

17 35.453

18 39.948

13 AL

14 SI

15 P

16 S

17 CL

18 AR

ALUMINIUM

SILICON

PHOSPHORUS

SULPHUR

CHLORINE

ARGON

LANTHANIDE

57 138.91

58 140.12

59 140.91

60 144.24

61 (145)

62 150.36

63 151.96

64 157.25

65 158.93

66 162.50

67 164.93

68 167.26

69 168.93

70 173.04

71 174.97

La

Ce

Pr

Nd

Pm

Sm

Eu

Gd

Tb

Dy

Ho

Er

Tm

Yb

Lu

LANTHANUM

CERIUM

PRASEODYMIUM

NEODYMIUM

PROMETHIUM

SAMARIUM

EUROPIUM

GADOLINIUM

TERBIUM

DYSPROSIUM

HOLMIUM

ERBIUM

THULIUM

YTTERIUM

LUTETIUM

ACTINIDE

89 (227)

90 232.04

91 231.04

92 238.03

93 (237)

94 (244)

95 (243)

96 (247)

97 (247)

98 (251)

99 (252)

100 (257)

101 (258)

102 (259)

103 (262)

Ac

Th

Pa

U

Np

Pu

Am

Cm

Bk

Cf

Es

Fm

Md

No

Lr

ACTINIUM

THORIUM

PROTACTINIUM

URANIUM

NEPTUNIUM

PLUTONIUM

AMERICIUM

CURIUM

BERKELIUM

CALIFORNIUM

ENSTENIUM

FERMIUM

MENDELEVIUM

NOBELIUM

LAWRENCIUM

(1) Pure Appl. Chem., 73, No. 4, 667-683 (2001)

Relative atomic mass is shown with five significant figures. For elements having no stable nuclides, the value enclosed in brackets indicates the mass number of the longest-lived isotope of the element.

However three such elements (Th, Pa, and U) do have a characteristic terrestrial isotopic composition, and for these an atomic weight is tabulated.

Editor: Aditya Vardhan (advar@netflix.com)

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