

Chem 41c Quiz 7

Stoltz, Spring 2011

May 27, 2011

Due June 1, 2011 9:00 AM

You have 60 minutes 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. Place a box around your answers. There is no partial credit. The quiz is worth 25 out of 20 points.

Name_____

Chem 41c Quiz 7

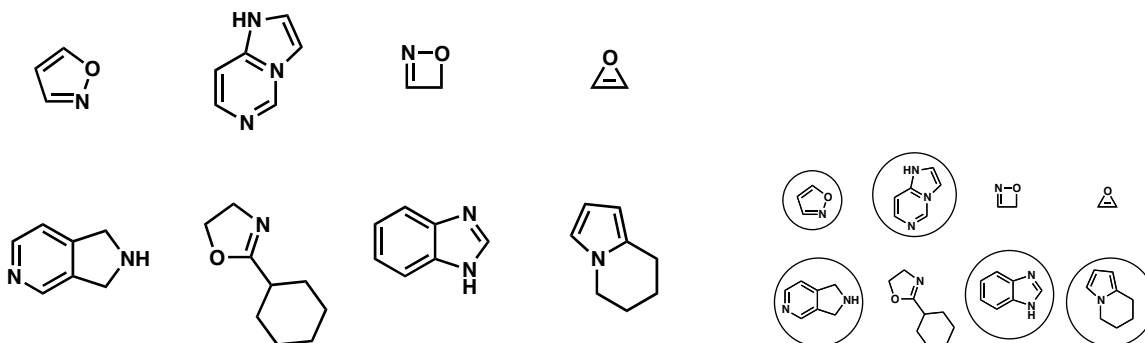
Quiz Grade _____

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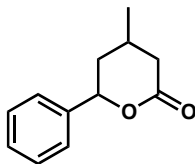
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Circle the compounds containing aromatic heterocycles. (5 points)

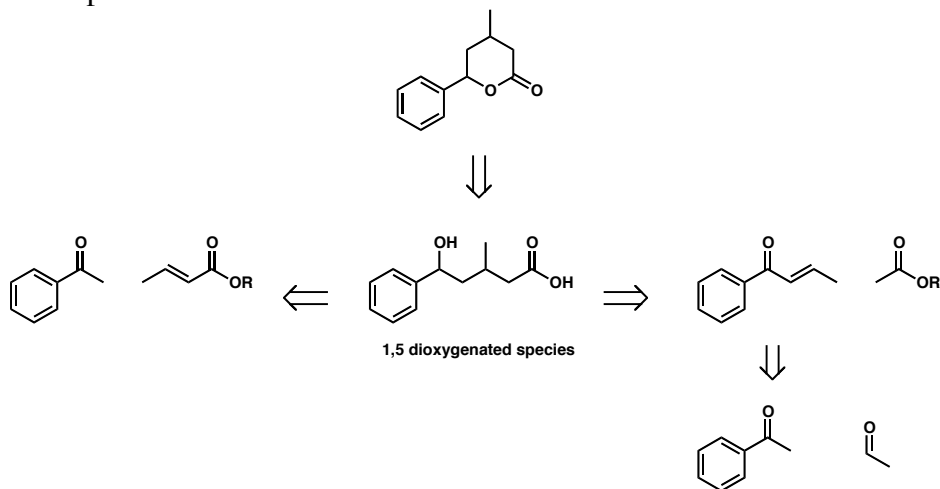
1.



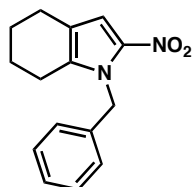
2. Provide two distinct retrosyntheses for the following compound each going back to starting materials of 8 carbons or less. (10 points-partial credit will be given)



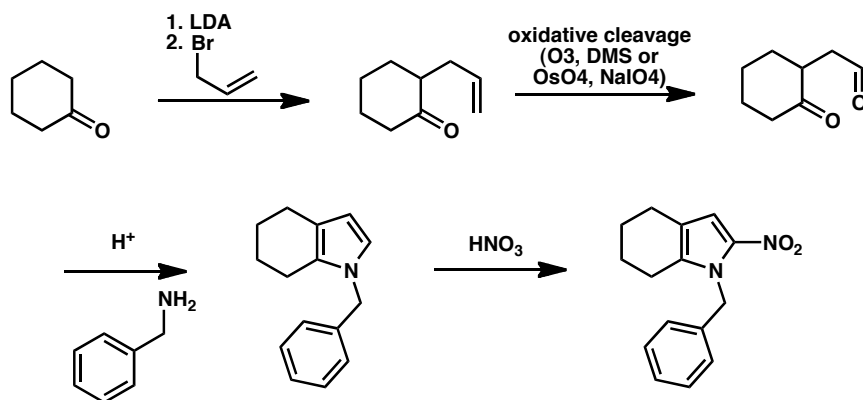
Some possibilities:



3. Propose a forward synthesis of the following compound starting from organic materials of 7 carbons or less. You may use the tools of retrosynthetic analysis if you choose, but you will be graded on the actual synthesis. (10 points-partial credit will be given)



Possible route:



PERIODIC TABLE OF THE ELEMENTS

<http://www.ktf-split.hr/periodni/en/>

PERIOD

GROUP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
IA	IIA	IIIB	IVB	VB	VIB	VII	VIII	VIII	VIII	VIII	IB	IB	IIIA	IVA	VA	VIA	VIIA	VIIIA
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	H												B	C	N	O	F	He
	HYDROGEN												BORON	CARBON	NITROGEN	OXYGEN	FLUORINE	HELIUM
2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2	Li	Be											B	C	N	O	F	Ne
	LITHIUM	BERYLLIUM											BORON	CARBON	NITROGEN	OXYGEN	FLUORINE	NEON
3	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
3	Na	Mg											Al	Si	P	S	Cl	Ar
	SODIUM	MAGNESIUM											ALUMINUM	SILICON	PHOSPHORUS	SULPHUR	CHLORINE	ARGON
4	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
4	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	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
5	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	56	57-71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86
6	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	88	89-103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118
7	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	BOHRNIUM	HASSIUM	MEITNERIUM	UNUNNIUM	UNUNNIUM	UNUNNIUM	UNUNNIUM	UNUNQUADIUM	UNUNPENTIUM	UNUNSEXTIUM	UNUNSEPTIUM	UNUNOCTIUM

LANTHANIDE

57	58	59	60	61	62	63	64	65	66	67	68	69	70	71
La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
LANTHANIUM	CERIUM	PRASEODYMIUM	NEODYMIUM	PROMETHIUM	SAMARIUM	EUROPIUM	GADOLINIUM	TERBIUM	DYSPROSIUM	HOLMIUM	ERBIUM	THULIUM	YTTERIUM	LUTETIUM

ACTINIDE

89	90	91	92	93	94	95	96	97	98	99	100	101	102	103
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	FERMIIUM	MEISELIUM	NOBELIUM	LAWRENCIUM

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(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.

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