课程代码（Coursenumber）   
Chemistry 3010 (301)   
  
课程对象（Audience）   
Primarily for Undergraduates   
  
开课教师（Teacher）   
Professor Ruttledge   
  
学期（Semester）   
Spring   
  
课程描述（Description））   
Organic compounds can be toxic and in some individuals may stimulate skin allergies. None of the materials used in Chemistry 301 is known to have a serious toxicity from short-term exposure to small doses, but you should treat all of them with caution and avoid ingesting them, inhaling their vapors for extended periods, or bringing them in contact with your skin. Inform your TA immediately if you develop a skin irritation. Some of the materials used are corrosive (e.g. sulfuric acid) and most organic compounds are flammable. You should always presume that organic materials pose a long-term cancer risk and behave accordingly. The upside of this message is that several epidemiological studies of professional chemists have shown no evidence for increased risk of cancer (although dementia is rampant!) This undoubtedly reflects their general awareness of potential risks, and their disciplined work habits.   
  
课程提纲（Syllabus）   
Tentative Schedule   
Week Date Lecture Topic Laboratory Topic   
1/25 Introduction/melting points basic laboratory operations   
1/27 Distillation distillation   
1/29 Extraction/distillation/crystallization   
2/1 Crystallization/yield extraction/solubility   
2/3 MP/IR spectroscopy crystallization   
2/5 Steam dist./IR spectroscopy   
2/8 Esterification/IR limonene (steam distillation)   
2/10 Chromatography/MS esterification/crystallization   
2/12 Nitration/IR   
2/15 Hexyl bromide/NMR nitration   
2/17 NMR hexyl bromide   
2/19 NMR   
2/22 Grignard hexyl bromide/TLC   
2/24 Grignard/dehydration methyloctanol   
2/26 NO CLASS   
3/1 org syn/sulfanilamide methyloctenes/GC   
3/3 org syn /amide hydrolysis sulfonation of acetanide   
3/5 EXAM   
3/8 stilbene amide hydrolysis   
3/10 NO CLASS stilbene/dibromostilbene   
3/12 diphenylacetylene/Diels-Alder   
3/15 NO CLASS dibromostilbene/PhCCPh   
3/17 NO CLASS tetraphenylcyclopentadienone   
3/19 NO CLASS   
3/20-3/28 SPRING BREAK   
3/29 FC Acylation hexaphenylbenzene   
3/31 NO CLASS catch-up   
4/2 photodimerization   
4/5 pinacol rear./qual unk. Friedel Crafts Acylation   
4/7 NO CLASS photodimerization   
4/9 pinacolone analysis   
4/12 unknowns/flash chromatography pinacol rearrangement   
4/14 NO CLASS pincolone degrad./anal.   
4/16   
4/19 NO CLASS qual unknowns   
4/21 NO CLASS qual unknowns   
4/23   
4/26 qual unknowns   
4/28 qual unknowns   
4/30 EXAM   
5/3-5/7 checkout (no lab work)   
Exam Dates: In class on Friday 3/5/10 and Friday 4/30/10.   
Experiments in italics will have formal reports written for them (there are three total (some are   
multi-week experiments)).   
  
课时信息（Totalhours）   
16328 LEC 001 MWF   
12:20PM - 01:10PM   
BKL 135   
Ruttledge,T (tr45)   
Labs begin Mon. Jan 25, late comers for 1st mtg of labs, forfeit their spot but are not automatically dropped from the course. Students should bring goggles and apron to first lab meeting.   
  
教参信息（Textbookinfo）   
1 Chemicals via Higher Plant Bioengineering (Advances in Experimental Medicine and Biology) by Fereidoon Shahidi, Paul Kolodziejczyk, John R. Whitaker, and Agustin Lopez Munguia (Hardcover - May 31, 1999)   
ISBN-13: 978-0306461170   
2 Water in Biology, Chemistry and Physics: Experimental Overviews and Computational Methodologies (World Scientific Series in Contemporary Chemical Physics, Vol 9) by Sheng-Bai Zhu, Myron W. Evans, and G. Wilse Robinson (Hardcover - June 1996)   
ISBN-13: 978-9810224516