

### Schedule of Experiments

**Text:** Wade, *Organic Chemistry*, 9th edition.  
**Laboratory manual:** California State University, Northridge, Department of Chemistry,  
*Chemistry 333L Laboratory Manual*.

<u>Dates</u>	<u>Experiment, Pre-Laboratory Preparation</u>
May 26	Check-in Safety Review CSU Northridge Chemistry 333L Manual, pp. 1–17. UCLA video: <a href="#">Safety</a>
May 27	Melting-Point Analysis Evaluation of Purity by Melting-Point Determination Melting-Point Determination of an Unknown CSU Northridge Chemistry 333L Manual, pp. 18–28. CSU Northridge video: <a href="#">Melting-Point Analysis</a> UCLA video: <a href="#">Melting-Point Determination</a>
May 28	Recrystallization of Acetanilide CSU Northridge Chemistry 333L Manual, pp. 29–41. CSU Northridge video: <a href="#">Recrystallization of Acetanilide</a> UCLA video: <a href="#">Recrystallization</a>
June 2	Simple Distillation of $\alpha$ -Pinene CSU Northridge Chemistry 333L Manual, pp. 48–67. CSU Northridge video: <a href="#">Simple Distillation of <math>\alpha</math>-Pinene</a> UCLA video: <a href="#">Simple Distillation</a>
June 3	Molecular Modeling Conformational Analysis with ChemDraw and Chem3D CSU Northridge Chemistry 333L Manual, pp. 81–86. Wade, Sections 3-13 to 3-15.

- June 4, 9                      Fractional Distillation of Cyclohexane and Toluene  
                                    With and Without a Vigreux Column  
CSU Northridge Chemistry 333L Manual, pp. 68–73.  
Work together in pairs to do both distillations.  
CSU Northridge video: [Fractional Distillation of Cyclohexane and Toluene  
With and Without a Vigreux Column](#)  
UCLA video: [Fractional Distillation](#)  
UCLA video: [Gas Chromatography](#)
- June 10                        Extraction  
                                    Which Phase is Which?  
                                    The "Salting-Out" Effect  
                                    Acid-Base Extraction of Benzil and Benzoic Acid  
CSU Northridge Chemistry 333L Manual, pp. 87–96, 99–101.  
CSU Northridge video: [Acid-Base Extraction of Benzil and Benzoic Acid](#)  
UCLA video: [Extraction](#)
- June 11                        Thin-Layer Chromatography (TLC)  
                                    TLC Analysis of *o*-Hydroxyacetophenone and *p*-Hydroxyacetophenone  
                                    TLC Analysis of a Mixture of Common Analgesics  
CSU Northridge Chemistry 333L Manual, pp. 103–112.  
CSU Northridge video: [TLC Analysis of a Mixture of Common Analgesics](#)  
UCLA video: [Thin-Layer Chromatography](#)
- June 16, 17                    Column Chromatography of Cholesterol and a Cholesteryl Ester  
CSU Northridge Chemistry 333L Manual, pp. 113–124.  
CSU Northridge video: [Column Chromatography of Cholesterol and  
a Cholesteryl Ester](#)  
UCLA video: [Column Chromatography](#)
- June 18, 23                    Acid-Catalyzed Dehydration of 2-Methylcyclohexanol  
CSU Northridge Chemistry 333L Manual, pp. 125–133, 189–192.  
Wade, Sections 6-13 to 6-15, 7-8A to 7-8C, 7-10, 7-11, 7-17B, 7-18,  
11-7, and 11-10.  
CSU Northridge video: [Acid-Catalyzed Dehydration of 2-Methylcyclohexanol](#)  
UCLA video: [Gas Chromatography](#)

- June 24, 25                      Stereoselective Reduction of 4-*tert*-Butylcyclohexanone  
CSU Northridge Chemistry 333L Manual, pp. 138–142, 183–184, 189–192.  
Wade, Sections 10-11 and 18-11.  
CSU Northridge video: [Stereoselective Reduction of 4-\*tert\*-Butylcyclohexanone](#)  
UCLA video: [Gas Chromatography](#)  
UCLA video: [Infrared Spectroscopy](#)
- June 30                              Infrared (IR) Spectroscopy  
CSU Northridge Chemistry 333L Manual, pp. 143–149, 183–184.  
Wade, Sections 12-1 to 12-12.  
   Appendices 2A and 2B.  
Work together in pairs to analyze two infrared spectra.  
CSU Northridge video: [Analysis of IR Spectra](#)  
UCLA video: [Infrared Spectroscopy](#)
- July 1                                 Catch-up
- July 2                                 Nuclear Magnetic Resonance (NMR) Spectroscopy  
CSU Northridge Chemistry 333L Manual, pp. 150–163, 183–188.  
Wade, Sections 12-1 to 12-12, 13-1 to 13-13.  
   Appendices 1B, 1C, 2A, and 2B.  
Work together in pairs to analyze the  $^1\text{H}$  and  $^{13}\text{C}$  NMR spectrum of an unknown.  
CSU Northridge video: [Analysis of NMR Spectra](#)
- July 7                                 Check-out

See the [CSUN Chemistry](#) YouTube channel for the specific CSU Northridge experimental videos.

See the [Instructional Media Production](#) website for the UCLA organic chemistry technique videos.