

Schedule of Experiments

Text: Wade, *Organic Chemistry*, 6th edition.

Laboratory manual: California State University, Northridge, Department of Chemistry,
Chemistry 333L Laboratory Manual.

| <u>Dates</u> | <u>Experiment, Pre-Laboratory Preparation</u> |
|-------------------|---|
| Jan. 29 – Feb. 2 | Check-in. Safety Review. CSU Northridge Chemistry 333L Manual, pp. 1–17. LRC Safety DVD. |
| Feb. 5–9 | Melting Points. Evaluation of Purity by Melting-Point Determination. Melting-Point Determination of an Unknown. CSU Northridge Chemistry 333L Manual, pp. 18–28. LRC Melting-Point Determination DVD. |
| Feb. 12–16 | Purification of Acetanilide by Recrystallization. CSU Northridge Chemistry 333L Manual, pp. 29–41. LRC Recrystallization DVD. |
| Feb. 19–23 | Simple Distillation. Isolation of α -Pinene. CSU Northridge Chemistry 333L Manual, pp. 48–67. Modification: Skip the Boiling-Point Determination of an Unknown section. LRC Simple Distillation DVD. |
| Feb. 26 – March 2 | Fractional Distillation With a Vigreux Column. CSU Northridge Chemistry 333L Manual, pp. 68–73. Modification: Only do the fractional distillation. LRC Fractional Distillation DVD. |
| March 5–9 | Molecular Modeling. Conformational Analysis with ChemDraw and Chem3D. CSU Northridge Chemistry 333L Manual, pp. 81–86. Wade, Sections 3-13 to 3-15. |

- March 12–16 Extraction.
 Which Phase is Which?
 The "Salting-Out" Effect.
 Separation via Acid-Base Extraction.
CSU Northridge Chemistry 333L Manual, pp. 87–96, 99–101.
LRC Extraction DVD.
- March 19–23 Thin-Layer Chromatography (TLC).
 TLC Analysis of *o*-Hydroxyacetophenone and *p*-Hydroxyacetophenone.
 TLC Analysis of Analgesic Components and an Unknown Mixture.
CSU Northridge Chemistry 333L Manual, pp. 103–112.
LRC Thin-Layer Chromatography DVD.
- April 9–13 Separation of Cholesterol and a Cholesteryl Ester by Column Chromatography.
CSU Northridge Chemistry 333L Manual, pp. 113–124.
 Modification: Only collect and characterize cholesterol. Do not isolate the
 cholesteryl palmitate impurity.
LRC Column Chromatography DVD.
- April 16–20 Acid-Catalyzed Dehydration of 2-Methylcyclohexanol.
CSU Northridge Chemistry 333L Manual, pp. 125–133, 173–174, 189–192.
Wade, Sections 6-13 to 6-15, 6-17, 6-18, 7-7A to 7-7C, 7-10, 11-7 and 11-10.
LRC Gas Chromatography DVD.
- April 23–27 Reduction of Cyclohexanone.
CSU Northridge Chemistry 333L Manual, pp. 134–137, 181–184, 189–192.
Wade, Sections 10-11 and 18-12.
LRC Infrared Spectroscopy DVD.
- April 30 – May 4 Infrared Spectroscopy.
CSU Northridge Chemistry 333L Manual, pp. 143–149, 183–184.
Wade, Sections 12-1 to 12-12.
 Appendices 2A and 2B.
LRC Infrared Spectroscopy DVD.
- May 7–11 Organic Structure Determination by Spectrometric Techniques.
CSU Northridge Chemistry 333L Manual, pp. 150–163, 183–188.
Wade, Sections 12-1 to 12-12, 13-1 to 13-13.
 Appendices 1A, 1C, 2A and 2B.
- May 14–18 Check-out.