Chemistry 333L Spring 2019

Schedule of Experiments

Text: Wade, *Organic Chemistry*, 9th edition.

Laboratory manual: California State University, Northridge, Department of Chemistry and Biochemistry,

Chemistry 333L Laboratory Manual.

<u>Dates</u> <u>Experiment, Pre-Laboratory Preparation</u>

Jan. 22–24 Check-in.

Safety Review.

CSU Northridge Chemistry 333L Manual, pp. 1–17.

Oviatt Library Safety DVD.

Jan. 29–31 Melting Points.

Evaluation of Purity by Melting-Point Determination.

Melting-Point Determination of an Unknown.

CSU Northridge Chemistry 333L Manual, pp. 18–28. Oviatt Library Melting-Point Determination DVD.

Feb. 5–7 Purification of Acetanilide by Recrystallization.

CSU Northridge Chemistry 333L Manual, pp. 29–41.

Oviatt Library Recrystallization DVD.

Feb. 12–14 Simple Distillation.

Isolation of α -Pinene.

CSU Northridge Chemistry 333L Manual, pp. 48-67.

Modification: Skip the Boiling-Point Determination of an Unknown section.

Oviatt Library Simple Distillation DVD.

Feb. 19–21 Molecular Modeling.

Conformational Analysis with ChemDraw and Chem3D.

CSU Northridge Chemistry 333L Manual, pp. 81–86.

Wade, Sections 3-13 to 3-15.

Feb. 26–28 Distillation of Two Volatile Compounds With and Without a Vigreux Column.

CSU Northridge Chemistry 333L Manual, pp. 68–73.

Work together in pairs to do both distillations.

Oviatt Library Fractional Distillation DVD.

March 5–7 Extraction.

Which Phase is Which?

The "Salting-Out" Effect.

Separation via Acid-Base Extraction.

CSU Northridge Chemistry 333L Manual, pp. 87–96, 99–101.

Oviatt Library Extraction DVD.

March 12–14 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.

Oviatt Library Thin-Layer Chromatography DVD.

March 26–28 Separation of Cholesterol and a Cholesteryl Ester by Column Chromatography.

CSU Northridge Chemistry 333L Manual, pp. 113–124.

Oviatt Library Column Chromatography DVD.

April 2–4 Catch-up.

April 9–11 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.

Oviatt Library Gas Chromatography DVD.

April 16–18 Stereoselective Reduction of 4-*tert*-Butyleyclohexanone.

CSU Northridge Chemistry 333L Manual, pp. 138–142, 183–184, 189–192.

Wade, Sections 10-11 and 18-11.

Oviatt Library Infrared Spectroscopy DVD.

April 23–25 Check-out.

April 30 – May 2 Infrared Spectroscopy.

CSU Northridge Chemistry 333L Manual, pp. 143–149, 183–184.

Wade, Sections 12-1 to 12-12.

Appendices 2A and 2B.

Oviatt Library Infrared Spectroscopy DVD.

May 7–9 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 1B, 1C, 2A, and 2B.