

Suggested Textbook Problems (Klein 4th edition)

CHM 3140, Organic Chemistry I

- Ch. 1 **General Chemistry Review** 1-14, 18-72, 80-83.
- Ch. 2 **Molecular Representations** 1-72. *You may refer to Table 2.1 for problem 2.7.*
- Ch. 3 **Acid/Base Reactions** 1-64, but skip 21, 22, 23dg, 24d, 30f, 32-36, 46c, 47d, 49a, 50, 51ac, 64c.
- Ch. 4 **Alkanes & Cycloalkanes** ALL but skip 11-13, 36jk, 39, 44, 49. 57.
Add alkyl halide nomenclature from Chapter 7: 7.1, 7.47 (all but d).
Add DU/HDI from Chapter 14: 14.30 (all but c), 14.32, 14.48 (all but f and g).
- Ch. 5 **Stereochemistry** 1-71, but you can skip $[\alpha]$ calcs: 11-14, 42, 43, 49, 54, 56.
- Ch.15 **NMR Spectroscopy**
 - for Exam II: SkillBuilders 15.1–15.7 (¹H NMR) and 15.9 (¹³C) and the following problems: 1-22, 26, 35-39, 41, 42, 45, 47, 48, 50, 51, 71, 75-77.
 - for Exam III: SkillBuilder 15.8 and problems: 23-25, 57-59, 64.
- Ch. 6 **Study of Chemical Rxns** suggested problems: 1ab, 3, 4, 7, 11-17, 19, 21-28, 31, 36-42, 44-49.
- Ch. 7 Part 1 **Alkyl Halides – Substitution Rxns (S_N2, S_N1) SkillBuilders 1, 2, 6, 8** and problems 2, 23-25, 50-55, 70-72, 77, 79, 82, 84, 87-89, 92.
- Ch. 7 Part 2 **Alkyl Halides – Elimination Rxns (E2, E1) SkillBuilders 3, 4, 5, 7, 9** and problems 9-11, 26, 27, 32-34, 49, 56-70, 75, 76, 78, 80, 81, 83, 85, 86, 90, 96.
- Ch. 8 **Reactions of Alkenes** 1-97, but skip SkillBuilder 8.7, 28-30, 35cg, 37, 39k, 62, 64d, 95.
- Ch. 9 **Alkynes** suggested problems 1–66 (skip 44a)
- Ch. 10 **Radical Reactions** suggested problems 1–57 (skip 31, 36, 51, 53)
- Ch. 11 **Synthesis Strategies** suggested problems 1–32, 36ac

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- Ch. 11 **Synthesis** (Ch. 7–10 review) 1–32, 36ac
- Ch. 12 **Alcohols/Phenols** problems 1–67 (**skip** 12d, 16-18, 34h, 43, 45, 48b, 51, 52)
- Ch. 13 **Ethers/Epoxydes** problems 1–53, 59a-l, 59o-u, 64, 65, 67 (**skip** 4, 11, 12, 15, 21cd, 28, 32)
ADD epoxide problems from Chapter 8: SkillBuilder 8.7 (8.28, 8.29, 8.30), 8.62, 8.64d
- Ch. 19 **Ald/Ketone** 1–81 (**skip** 1e, 5f, 22, 32-33, 39, 42, 43b, 45, 53, 57cd, 58, 64ce, 67b, 71, 73g, 74, 75B)
ADD SkillBuilder 24.1, problems 24.9-11 (cyclic acetals) and problem 12.18 (protective groups)
ADD carbohydrate problems from Ch. 24: 17, 21, 85 (See Fig. 24.5, 24.6 for sugar structures)
- Ch. 20 **CarbAcid/Deriv** problems 1–77, 69g, 80 (**skip** 8, 10bce, 12dg, 13ab, 16cd, 27bc, 28a, 30ehj, 32c, 33, 34, 37ab, 38d, 39, 40, 43, 44g, 46ce, 48, 50, 59, 68)
ADD: Chapter 12 problems 12d, 16, 17, 45c, 48b, 51, 52 & Chapter 19 problem 19.32
- Ch. 21 **Enols & Enolates** problems 1–99, 112, 116 (**skip** 10-13, 22, 32, 34, 37-39)
- Ch. 17 **Aromaticity** problems 1–56, 60 (skip 7, 16, 20-23, 26-29, 43-46)
- Ch. 18 **Aromatic Rxns** problems 4–83 (skip 33, 34, 35ac, 36, 81)
ADD Ar. Rxns problems from Ch. 20-22: 20.43, 20.50, 20.59, 21.34, 22.26, 22.66
- Ch. 16 **Conjugated Dienes** (sections 1-8) 1–67 problems (**skip** 5, 19-28, 41, 47-56, 59, 60c, 65)
- Ch. 22 **Amines** (sections 1-9) problems 1-23, 33-40, 43-46, 48, 50-53, 57, 58, 61, 65, 73-79.