

Reading and Homework problems: Advanced Organic Chemistry, Fall 2010

Structure and Bonding:

Reading:

Wade: pp. 1-32, 46-77

Carey: pp. 1-24

Written Homework:

Wade: 1-2 a,b,c,e,f,h; 1-3b,d,e,f; 1-6a,b,c,g,h,k,l; 1-7a,d,g; 1-8e,f,g,h; 1-17 all; 1-18 c,d,e,f; 1-31 a, b, c, d; 1-47; 2-5 b, f; 2-9 a, b, c; 2-10 a, b, c, d, e, f; 2-17 b; 2-27 a, e, f, g.

Carey: Part A; 1.4 a, c

Conformations and Configurations:

Reading:

Wade: pp. 94-119, 167-206, 1097-1104

Carey: 119-169.

Written Homework:

Wade: 3-25; 3-27 a; 3-28 a, b, d; 5-5 a, b, c, e; 5-14 a, b, e, f; 5-16 a, b; 5-17 a, b; 5-20 a, b; 5-26 a, b, c, e, f. 23-1; 23-2; 23-3; 23-4; 23-5; 23-6; 23-7 a, b.

Carey: 2.1;

Nucleophilic Substitution

Reading:

Wade: 225-251

Carey: 389-458

Written Homework:

Wade: 6-11 all, 6-12 all, 6-14 a, b, c; 6-15 a, b, d, g, f; 6-16 all; 6-17; 6-18 all; 6-19 a, b, c; 6-20 all; 6-23 a, b, c; 6-24; 6-26 a, b; 6-29 a;

Carey: 4-2 a, b, d, f, g

Addition and Elimination Reactions

Reading:

Wade: 251-267; 290-313; 321-373;
Carey: 473-568

Written Homework:

Wade: 6-30 all, 6-32 all, 6-38, 6-73; 7-11 all; 7-13 all; 7-15 a, b, c; 7-16 all; 7-17 all; 7-19 all; 7-20; 7-22 a, b, c; 7-23 all; 7-24 a; 7-25 a, b; 7-29 c; 7-39 all.

Wade: 8-1 all; 8-3 a; 8-4 all; 8-5; 8-7 a; 8-8 a, b; 8-10 a, b, c, d; 8-11 a; 8-15 all; 8-18 a, c; 8-19; 8-21 a, b, c; 8-22 a; 8-23 c; 8-26 a, c; 8-27 all; 8-29 a, b; 8-32 a, b; 8-34 a, b, c; 8-35 a, b; 8-36 a, b; 8-37 a, b, c; 8-38; 8-42; 8-43; 8-45 all; 8-47 all; 8-48 all.

Carey: 5-2 all; 5-9 all; 5-21 all

Carbanions, Carbonyl Compounds, and Carboxylic Acid Derivatives

Reading:

Wade: pp. 427-455; 957-964; 966-969; 978-987; 994-1031
Carey: pp. 579-619

Written Homework:

Wade: 10-7 a, d; 10-8; 10-9; 10-10; 10-12 a, b; 10-13 a, c; 10-14 a, b; 10-15 a, b; 10-16; 10-17; 10-18 a; 10-19 a; 10-21 a, b; 10-22 all; 10-23 a, d; 10-24 a, b, c; 10-27; 10-29; 10-49; 10-51; 20-12; 20-15 b, c; 20-17 a; 20-18 a; 20-19 a; 20-22; 21-6 a; 21-8 a, c; 21-9 a; 21-20 a, b; 21-25 a, b; 21-27; 21-48 a, b; 21-49 a, b; 21-50 a, b; 21-51 a.

Carey: 6-2 all; 6-9 a, b, c.

Condensation and Substitution Reactions of Carbonyl Compounds

Reading:

Wade; Chap. 22, pp 1041-1090
Carey: Chap. 7, pp. 629-697

Written Homework:

Wade: 22-1 all; 22-2; 22-5; 22-6; 22-8a, 22-9 a, b, c; 22-11 (needs reagents not shown); 22-12a; 22-13 b; 22-14; 22-15; 22-16 a, b; 22-17a; 22-19 all; 22-21; 22-24 all; 22-25a; 22-30; 22-32 a, c, e; 22-36 a, c; 22-38 a; 22-40 all; 22-42 a, b; 22-44 a, b; 22-45 a; 22-46 a, b; 22-47 a, b; 22-49 all; 22-50 a, b; 22-53; 22-56 a, b, c; 22-57; 22-62 all; 22-63; 22-64 a, b; 22-65 a, b; 22-68 a, b, c; 22-69 a, d, e; 22-73 a; 22-76 b; 22-77a;

Carey: problem 7.8 all

Aromatic Compounds

Wade: Chapter 16, pp 705-738

Carey: Chapter 8, pp. 713-760

Written Homework:

Wade: 16-7 all; 16-8 all; 16-12 a, b; 16-15; 16-18 all; 16-34 all

Reactions of Aromatic Compounds

Wade: Chapter 17 all

Written Homework:

Wade: 17-2; 17-4; 17-6; 17-8; 17-11; 17-15 a, b, c, d; 17-22 a, b; 17-23; 17-24; 17-25 a, b; 17-32.

Synthetically Useful Substitution Reactions

Reading:

Carey, Part b, Chapter 3, pp. 215-258

Written Homework:

Carey, Part B: 3.1 a, d, h, I, j; 3.3; 3.4 g

Radicals

Reading:

Grossman book, pp. 224-252

Written Homework:

3f, p, x

Transition-Metal Catalyzed Reactions

Reading:

Grossman book, pp. 270-328

Carey, part B pp. 706-771