Workshop 17 More Multistep Organic Synthesis

As we did in the In-Class Exercise, "Planning Multistep Organic Syntheses," propose a multistep synthesis for each of the transformations below, giving a recipe of reagents and reaction conditions for each synthetic step. Again, keep in mind that You do not need to "push electrons"—this is not a mechanism question—but you certainly need to keep mechanisms in mind to make sure the products you propose are selectively made from your starting materials.

Hint: Each of these syntheses ends with functional groups on adjacent carbons. Recently, you learned that bromonium ions and epoxides are two intermediates that can be used to accomplish this.