Academic Honesty Policy. Academic honesty is strictly enforced on quizzes, exams, and other aspects of this course. Academic dishonesty will result in a failing grade in the class and a letter in the student's file. Activities constituting academic dishonesty include:

Cheating: Copying from others during an examination. Communicating exam answers with other students during an examination. Offering another person's work as one's own. Taking an examination for another student or having someone take an examination for oneself. Tampering with an examination after it has been corrected, then returning it for more credit. Using unauthorized materials, prepared answers, written notes, or concealed information during an examination.

Dishonest Conduct: Stealing or attempting to steal an examination or answer key from the instructor. Allowing another student to copy off of one's own work during a test.

Collusion: Any student who knowingly or intentionally helps another student perform any of the above acts is subject to discipline for academic dishonesty.

I understand and will abide by this academic honesty policy: ____________________________ (signature) Seat: _______

1. In the second part of the Hell-Vollhard-Zelinsky reaction, an acid bromide reacts with bromine (Br₂) and hydrogen bromide (HBr) under anhydrous (no water present) conditions to generate an α-bromoacid bromide. (The HBr acts as a catalyst and is a byproduct of both the first and second parts of the Hell-Vollhard-Zelinsky reaction.) Write a curved-arrow mechanism for the reaction, shown below. Make sure to show all important curved arrows, charges, and lone pairs of electrons. (4 pts)

```
  Br
  | O
  | Br
  | |
  | HBr (catalyst), Br₂
  | O
  | Br
  | |
  | H
  | C
```

2. Use the malonic ester synthesis to prepare the following carboxylic acid. (Smith 23.48b, 4 pts)

```
  COOH
```

3. Draw the organic product of the following reaction in the box. (Smith 23.54e, 2 pts)

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  O
  1 LDA
  2 CH₃CH₂I
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