Problem Set 6 Answer Key

1. a) 

1. b)
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(2) a) \[ \text{Selective: Only one of the three possible enolate will react to give a six-membered ring. The other two would give four-membered rings. (BAD)} \]

b) \[ \text{Unselective: The brominated products react faster than the SM to get mixtures of mono-, di-, and tri-brominated products in addition to unreacted SM.} \]

c) \[ \text{Unselective: Claisen products will be favored because of formation of the enolate of the } p\text{-dicarbonyl, but ketone is unsymmetrical. Both } \alpha\text{-carbons have at least 2 enolvable protons.} \]
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3) Robinson Annellation:

Unselective: There are three potential enolates and two potential electrophiles. A mess!
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4. a)  \[ \text{ } \]

b)  \[ \text{ } \]

c)  \[ \text{ } \]

d)  \[ \text{ } \]

e)  \[ \text{ } \]

f)  \[ \text{ } \]
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\[ \text{Diagram} \]

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8. a) Carboxylate is unreactive (not electrophilic)

6. Ester generated in 2nd step can undergo Claisen condensation w/ enolate
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Remember: C-C bonds in cyclopropane frequently act more like π-bonds than σ-bonds.