Synthesis Rubric

	Beginning (0)	Developing (2.6)	Adequate (3)	Accomplished (3.4)	Exemplary (4)
Mapping	Starting material framework not mapped in product.	Starting material framework mapped incorrectly in product, with missing or mislabeled structural elements which derail synthesis attempts.	Starting material framework mapped correctly in product, but in a manner which derails synthesis attempts.	Starting material framework mapped correctly in product to allow for less efficient synthesis.	Starting material framework mapped correctly in product to allow for efficient synthesis.
Retrosynthesis	Retrosynthesis not attempted.	Retrosynthesis attempted, but with many functional group transformations and/or bond disconnections skipped over, resulting in an incomplete scheme.	Retrosynthesis completed but with some errors in functional group transformations and bond disconnects which result in errors in the forward construction of the target molecule.	Retrosynthesis completed utilizing correct functional group transformations and bond disconnects allowing for proper forward construction of target molecule, but with excess steps.	Retrosynthesis completed utilizing correct functional group transformations and bond disconnects allowing for proper forward construction of target molecule.
Sequencing	Sequencing clearly not considered.	Reactions organized improperly, resulting in major unintended complications which derail successful synthesis attempts.	Reactions organized improperly, resulting in minor unintended complications, but generally completing synthesis successfully.	Reactions organized improperly, resulting in additional steps required to complete synthesis successfully.	Reactions organized in proper sequence to allow for successful synthesis.
Reagents	Majority of reagents missing altogether.	The majority of reagents are inappropriate for the required transformations.	A number of chosen reagents not optimal, but would produce some of the desired product.	Proper reagents chosen to achieve successful transformations, but required solvents and conditions may be missing.	Proper reagents chosen to achieve successful transformations, including solvents and conditions where appropriate.
Protecting Groups	When required, use of a protecting group not considered.	When required, protecting group utilized inappropriate to withstand the required conditions.	When required, protecting group utilized, but better or more selective option available, such that complications arise affecting overall outcome of synthesis.	When required, appropriate protecting groups utilized, but may be inadvertently removed by subsequent reaction conditions, with premature removal not affecting successful synthesis.	When required, appropriate protecting groups utilized, and removed properly.

Revised - 3/15/12

Total points = 20