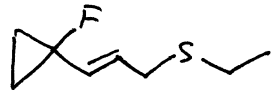
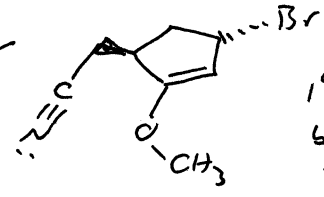
Chem 21

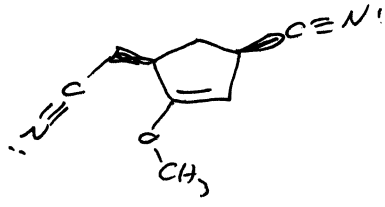
HW set 8 – graded part

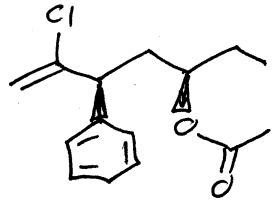
1.





1° tosylate beats 2° bromide





(that leaving group is called a "triflate" – it's a "souped-up" mesylate)

2. Probably the best approach is trial + error ---

if we start with 4 molecules of R–I,

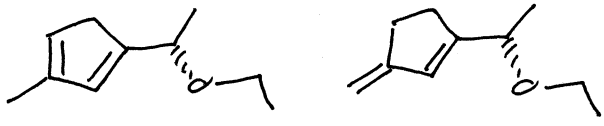
displacement of all 4 with I* to produce 3 with retained config + 1 with inverted config produces the "observed" result –

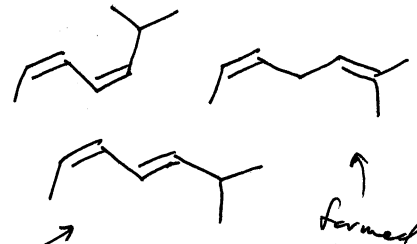
4 (S) R–I $\xrightarrow{I^{*\ominus}}$ (S) R–I*, (S) R–I*, (S) R–I*, (R) R–I*] rac.

opt. act 50% when I* incorp 100%

so this would imply 75% retention, 25% inv.

3.



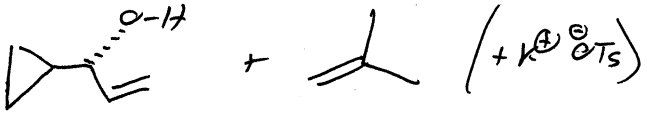


major prod. (conj., d.b.s, minimal steric problems)

formed in smallest amount (non-conj., d.b.s)

Final example –

find the base + the H_2C-C leaving group struck unit!



S_N2 can only happen in the case of the 2° bromide, though likely slow in this case