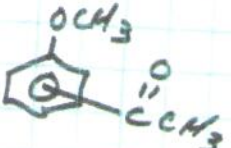
	+ $\text{CH}_3\overset{\text{O}}{\parallel}\text{C}\overset{\text{O}}{\parallel}\text{C}\text{CH}_3$	+ AlCl_3	$\xrightarrow{\text{CH}_2\text{Cl}_2}$	
FW	108.2	102.1	133.3		150.2
g	1.152	1.082	3.205		<1.592>
mmol	10.6	11.0	24.0		10.6
eq	1	1.1	2.2		1
d		1.082			
mL		1.0			

Prep calls for $\left\{ \begin{array}{l} \approx 11 \text{ mmol anhydride} \\ 22 \text{ mmol of AlCl}_3 \\ 10 \text{ mmol of anisole} \\ 10 \text{ mL of solvent} \end{array} \right\} \begin{array}{l} \sim 10 \\ 2.2:1 \\ \text{stoichiometry} \end{array}$

Calc amounts:
 $0.022 \text{ mol } 133.2 \text{ g/mol} = 2.932 \text{ g AlCl}_3$
 $0.010 \text{ mol } 108.2 \text{ g/mol} = 1.082 \text{ g anisole}$
 $0.011 \text{ mol } 102.1 \text{ g/mol} = 1.123 \text{ g anhydride}$

Actual amount used:
 $1.152 \text{ g anisole} / 108.2 = 10.6 \text{ mmol anisole}$
 $10.6 \times 2.2 = 23.3 \text{ mmol AlCl}_3 = 3.105 \text{ g AlCl}_3$

Actual amt weighed 3.205 g AlCl_3
 * Actual amt anhydride $\sim 1.0 \text{ mL}$
 \rightarrow Theor. yld based on anisole $10.6 \text{ mmol} \times \text{FW} = 1.592 \text{ g product}$

* density anhydride 1.082 g/mL
 $1.0 \text{ mL} \times 1.082 \text{ g/mL} = 1.082 \text{ g of anhydride}$

Procedure used:

50 mL r.b. flask fitted with claisen adapter and condenser and gas trap, stir bar
Add anisole in 5 mL solvent to flask
Add 2 mL more solvent 7 mL total so far

Cool flask in ice bath
Add $AlCl_3$ in small portions with microspatula over 1-2 minute period

Color of mixture was light green at this point
With syringe add anhydride dropwise over 5-7 minutes

Add μ of anhydride caused color to change to reddish brown
Remove ice bath.

Reflux 30 minutes

Pour rxn mixture onto ≈ 10 g of ice in 50 mL beaker

Add 5 mL CH_2Cl_2
Mixture was pasty & thick on ice
extra CH_2Cl_2 helped dissolve paste
Transfer to sep funnel and wash with ≈ 10 mL NaOH
Separate layers, wash with brine
dry with $MgSO_4$

Pipet organic layer thru glass wool plug into tared vial & remove solvent with stream of Ar gas
Crude mass 1.125 g (71%)