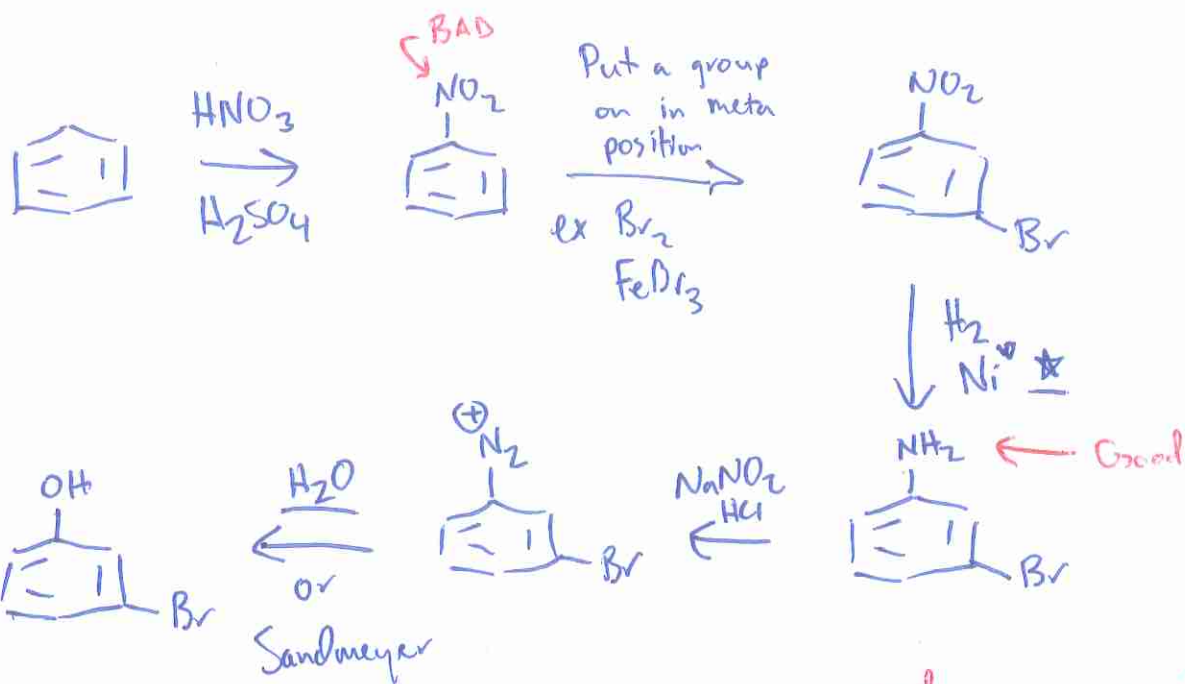


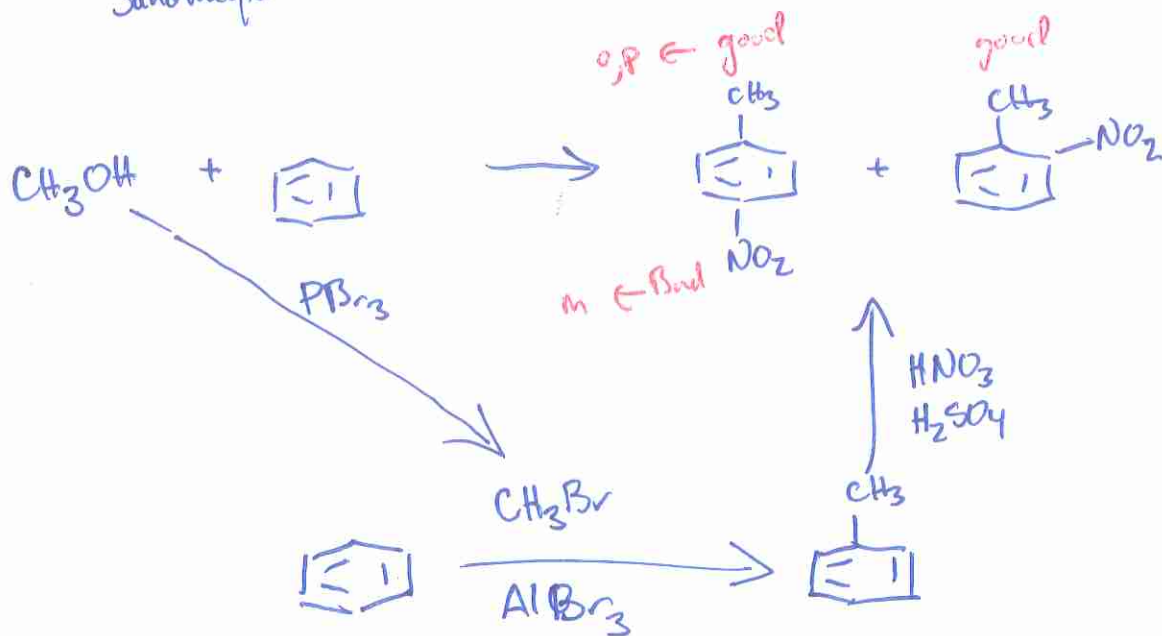
MTW

1

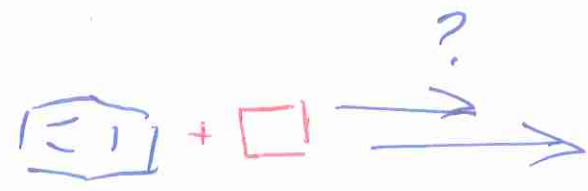
Mr. Bill Reaction → will get functional groups in the meta position. How?



Examples

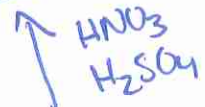
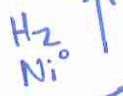
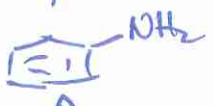
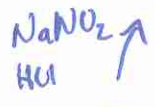
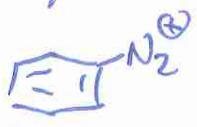
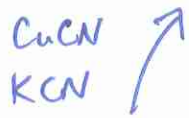
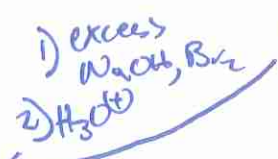
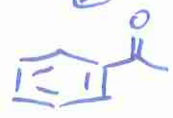
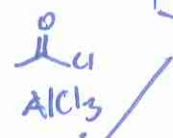
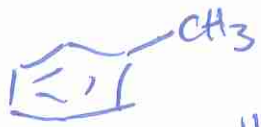
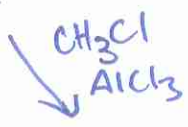


(2)



w/ CH₃Cl

w/ CO₂

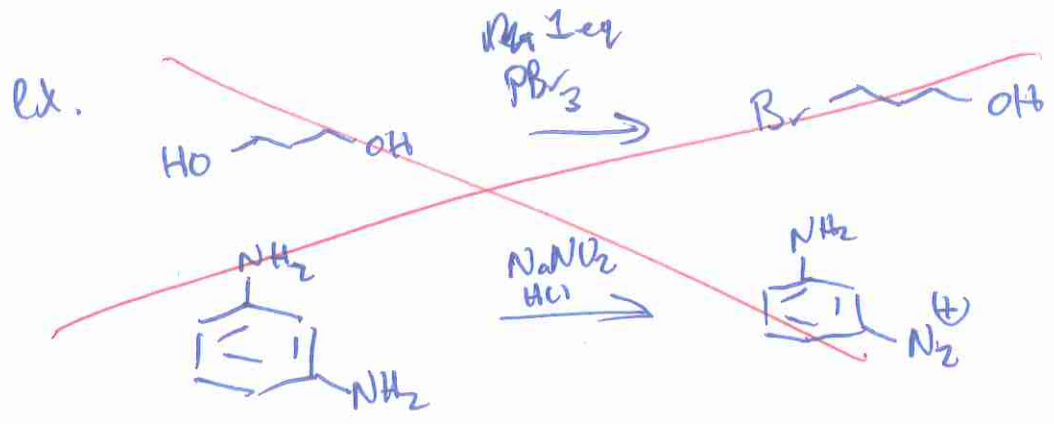


w/ KCN

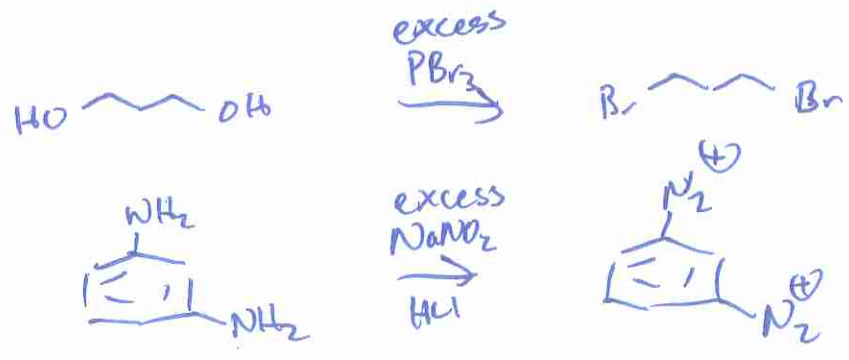


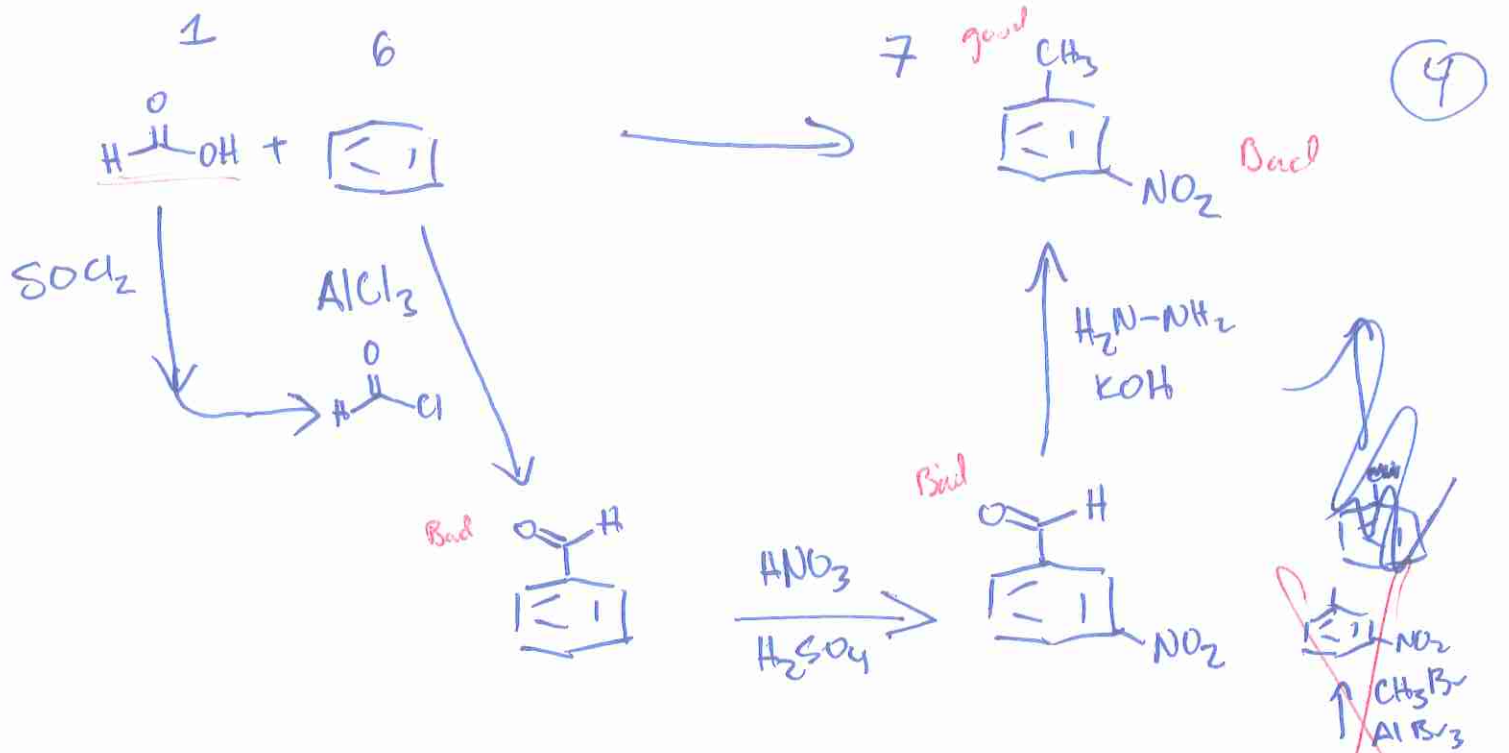
w/ CO₂

★ For synthesis problems, if a molecule has 2 of the same functional groups you CANNOT react with just one of them.



But you can react ~~both~~ BOTH w/ excess (or 2 equivalents) of your reagents





You can't do Friedel Crafts
 when there's a *Bad* group
 already on the ring

Transformation	Reagent	Mechanism
	$FeCl_3$, Cl_2 $FeBr_3$, Br_2 $FeCl_3$	<p><u>NOT</u> Al</p> <p>KRE</p>
	HNO_3 H_2SO_4	<p>KRE</p>
	H_2SO_4 SO_3	<p>KRE</p>
	$AlCl_3$ $R-CO-Cl$ <i>⚠ Rearrangements can happen!</i>	<p>KRE</p>
	$AlCl_3$ $Cl-CO-R$ Don't mix! $Br_2, h\nu$	<p>KRE</p>
	H_2CrO_4	<p>KRE</p>

Transformation	Reagent	Mechanism
	$R-NH_2$ S_NAr	KRE
	H_2 Ni^0	KRE
	$NaNO_2$ HCl	KRE
	H_2O HBF_4	KRE
	HCl $CuCl$ -Cl HBr $CuBr$ -Br KCN $CuCN$ -CN KI -I	KRE
	H_3PO_2 -H	KRE



