

COc1ccccc1I >> COc1ccccc1[N+](=O)[O-] >> COc1ccc(S(=O)(=O)O)cc1 >> COc1ccccc1 >> COc1ccccc1Br

c1ccccc1 $\xrightarrow[\text{FeBr}_3]{\text{Br}_2}$ BrC1=CC=CC=C1 $\xrightarrow[\text{CuBr}]{\text{NaOMe}}$ COC1=CC=CC=C1 $\xrightarrow[\text{H}_2\text{SO}_4]{\text{SO}_3}$ COC1=CC=C(S(=O)(=O)O)C=C1
 $\downarrow \text{HNO}_3, \text{H}_2\text{SO}_4$
COC1=CC=C([N+](=O)[O-])C(S(=O)(=O)O)=C1 $\xrightarrow[\text{H}_2\text{O}]{\text{H}_2\text{SO}_4}$ COC1=CC=C([N+](=O)[O-])C(S(=O)(=O)O)=C1
 $\xleftarrow[\text{HONO, HCl}]{\text{Sn/HCl}}$ [O-][N+]#NC1=CC=C(CO)C=C1 $\xleftarrow{\text{KI}}$ COC1=CC=C(I)C=C1

Hand-drawn chemical reaction scheme showing the synthesis of a naphthalene derivative. The scheme starts with a naphthalene ring substituted with a diazo group (-N=N-) and a diazoacetate group (-CH₂-COO-). This intermediate undergoes a series of transformations: first, it loses the diazoacetate group to form a naphthalene ring with a diazo group and a diazoacetate group; then, it loses the diazo group to form a naphthalene ring with a diazoacetate group; finally, it loses the diazo group to form a naphthalene ring with a diazoacetate group.

$$\text{C}_6\text{H}_6 \xrightarrow[\text{H}_2\text{SO}_4]{\text{HNO}_3} \text{C}_6\text{H}_5\text{NO}_2 \xrightarrow[\text{HCl}]{\text{Sn}} \text{C}_6\text{H}_5\text{ONO} \xrightarrow[\Delta]{\text{H}_2\text{O}} \text{C}_6\text{H}_5\text{OH} \xrightarrow[\text{Et}_3\text{N}]{\text{COCl}_2} \text{C}_6\text{H}_5\text{COOEt}$$

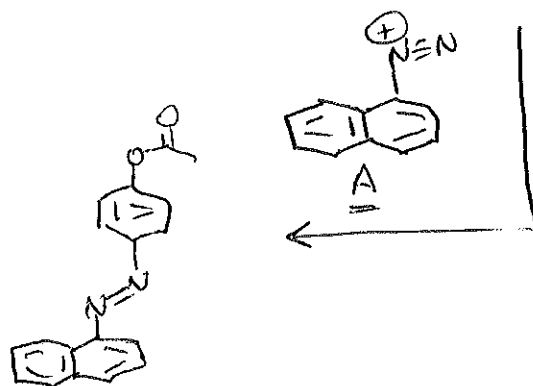
SYNTHESIS OF ANILINE

c1ccc2ccccc2c1 $\xrightarrow[\text{H}_2\text{SO}_4]{\text{HNO}_3}$ O=[N+]([O-])c1ccc2ccccc2c1 $\xrightarrow[\text{HCl}]{\text{Sn}}$ Nc1ccc2ccccc2c1

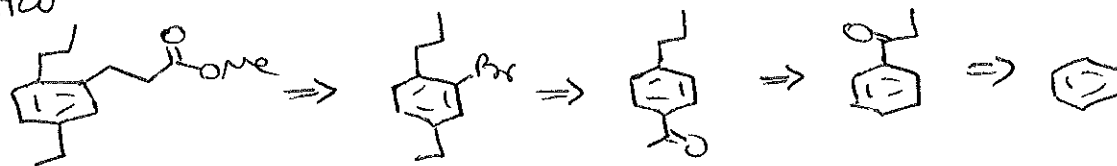
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[NH2+]c1ccc2ccccc2c1 $\xrightarrow[\text{HCl}]{\text{HONO}}$ Nc1ccc2ccccc2c1

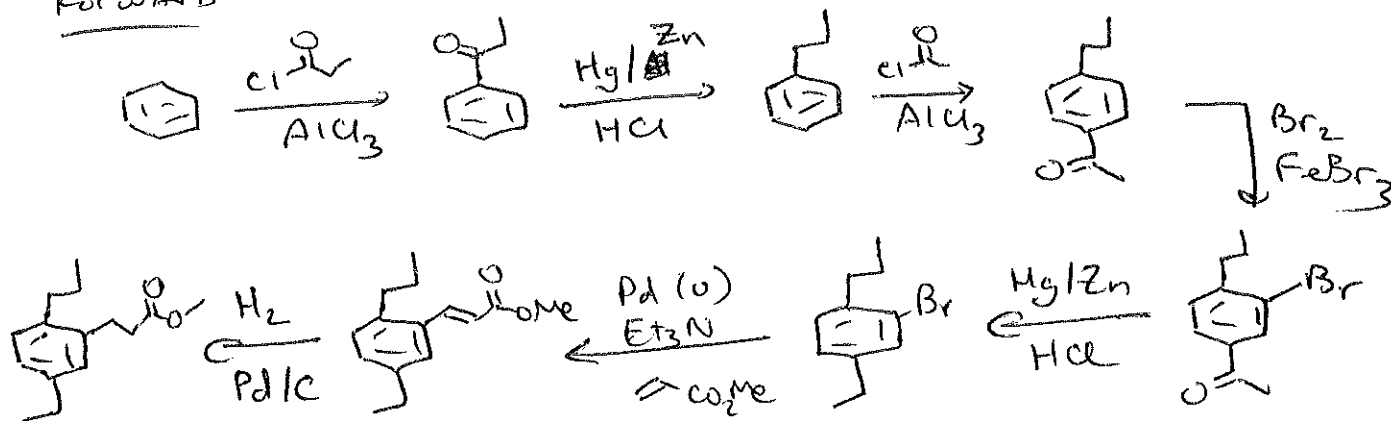
A Cl^-



c) Retro



Forward



d) Retro

