O_{32}

A NEW SYNTHESIS OF 3-(TRIFLUOROMETHOXY) ANILINE

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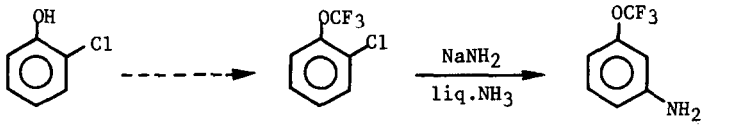
Since the trifluoromethoxy group is usually considered as a 'superhalogen' substituent, the nitration-reduction of (trifluoromethoxy)benzene leads essentially to p-(trifluoromethoxy)aniline. So, m-(trifluoromethoxy)aniline is only available through numerous-steps synthesis or hazardous or low-yield reactions.

We propose here a simpler, safe and realistic pathway to obtain m-(trifluoromethoxy)aniline from o-chlorophenol, the key step a totally regioselective arynic amination of o-chloro(trifluoromethoxy)benzene :



conv.= 84 % selectivity = 90 %

This method has been extend to the synthesis of 4-chloro-3-(trifluoromethoxy)-aniline from 2,6-dichlorophenol.

Some unusual products are obtained during the reaction between sodium amide and o-chloro(chlorodifluoromethoxy)benzene, depending on the initial attack of the amide anion :