

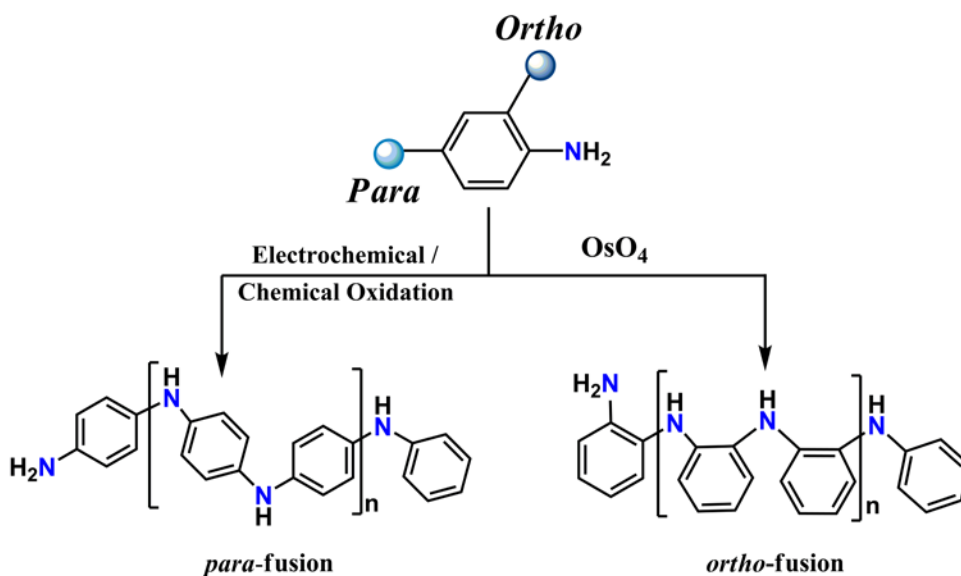
Tuning of the *ortho*-C_{arom}-N Bond Formation Reactivity of Aniline Using Transition Metal Templates

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Carbon-nitrogen bond formation in aniline is one of the most important chemical reactions for the syntheses of nitrogen containing aromatic organic compounds that are ubiquitous in modern society as medicines and functional materials. Polyaniline is one of such prominent examples that are of paramount importance as conducting polymers. These are commonly synthesized by the electrochemical or chemical oxidation reaction which occurs *via* successive *para*-C_{arom}-N coupling reactions. In contrast, the corresponding *ortho*-C_{arom}-N bond fusion reaction has scarcely been observed (Scheme 1). Acid-catalyzed rearrangement of hydrazobenzene to semidine is the only textbook example for the synthesis of the *ortho* dimer of aniline.

Scheme 1



This presentation will discuss the transition metal mediated knitting of aniline moieties via *ortho*-C_{arom}-N bond fusion reaction. Occurrence of higher homologues of aniline, examples of ring closure reactions producing macrocycles and phenazines will constitute some of the primary points of discussion. It is relevant to mention here that because of its high electron rich aromatic behavior, use of aniline as a coupling partner for C-N bond fusion is unusual. This presentation details the progress and identifies key features of the above chemical reactions which have been studied in our laboratory over the years. A brief mention on redox non-innocence properties of the resultant complexes will also be mentioned.