**Replacement of Sulfonic Acid Functionality by Amines, Thiols and Active Methylene Compounds of Highly Electron Deficient Benzene Sulfonic Acids**

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**Abstract:** C-C and C-heteroatom bond formation are fundamental and essential requirements in synthetic organic chemistry. Ipso nucleophilic substitution reaction is one of the efficient and well-established strategies for C-C and C-heteroatom bond formation.1 In this reaction, the aromatic ring is attacked by a strong nucleophile, a good leaving group is displaced, and the reaction goes via Meisenheimer adduct formation. In this regard, mostly the starting materials are aryl halide, aryl boric acid, aryl trimethylsilyl compound, or aryl triflate. Recently, Makosza *et al*. have established the nucleophilic substitution of hydrogen in an ipso manner.2 We have explored the scope of ipso substitution reaction on aryl sulfonic acid using various nucleophiles to form C-C and C-heteroatom bonds.3,4 Various active methylene compounds, amines, or thiols are used as nucleophiles, generating C-C, C-N, and C-S bonds, respectively. Therefore, we have demonstrated the sulfonic acid functionality replacement by various nucleophiles in an efficient manner with sufficiently high productivity.

**Scheme 1**: Schematic diagram of ipso substitution on aryl sulfonic acid

**Keywards:** Ipso substitution,Aryl sulfonic acid, C-C and C-heteroatom bond formation, API modifications

**References:**

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