New Synthesis of Aryl β-Bromoalkyl Sulfones from Arenesulfonyl Chlorides via Cross Halogenation

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Abstract—A new procedure has been proposed for the synthesis of aryl β-bromoalkyl sulfones by radical addition of arenesulfonyl chlorides at the double bond of alkenes in the presence of copper(I) halides, sodium bromide, and phase-transfer catalyst. The key stage of the process is bromide ion insertion into intermediate copper(II) derivative formed in the initiation stage. The subsequent bromine atom transfer from copper to alkyl radical yields the addition product.

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