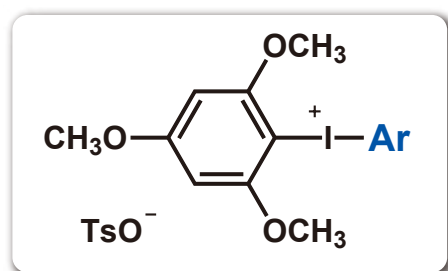


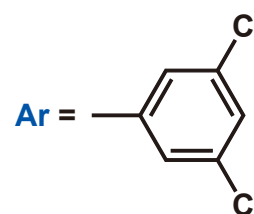
Bench-stable Reagents for Metal-free Arylation of Heteroatom Nucleophiles

Synthetic Features

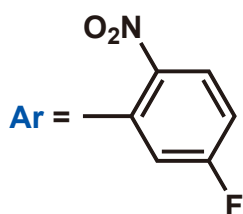
Diaryliodonium salts are versatile compounds that have found use as photo-acid generators in polymer synthesis and as arylation reagents in small molecule synthesis; metal-free reactions have become increasingly popular with the respect to the latter. Unsymmetrical aryl(auxiliary)iodonium salts are particularly attractive as they permit the transfer of more elaborate aryl moieties and minimize aryl waste streams by employing readily available and recoverable auxiliaries. Trimethoxybenzene-derived auxiliaries have been regarded as a promising auxiliary for chemoselective transfer of the other aryl group yet synthetic access to these reagents has remained limited.



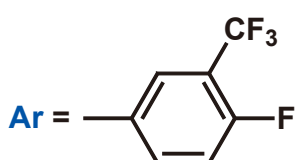
200mg
[B5269]



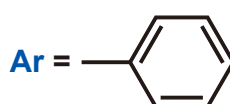
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[D5145]



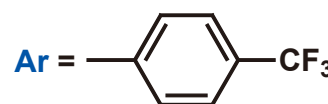
200mg
[F1110]



200mg
[F1111]

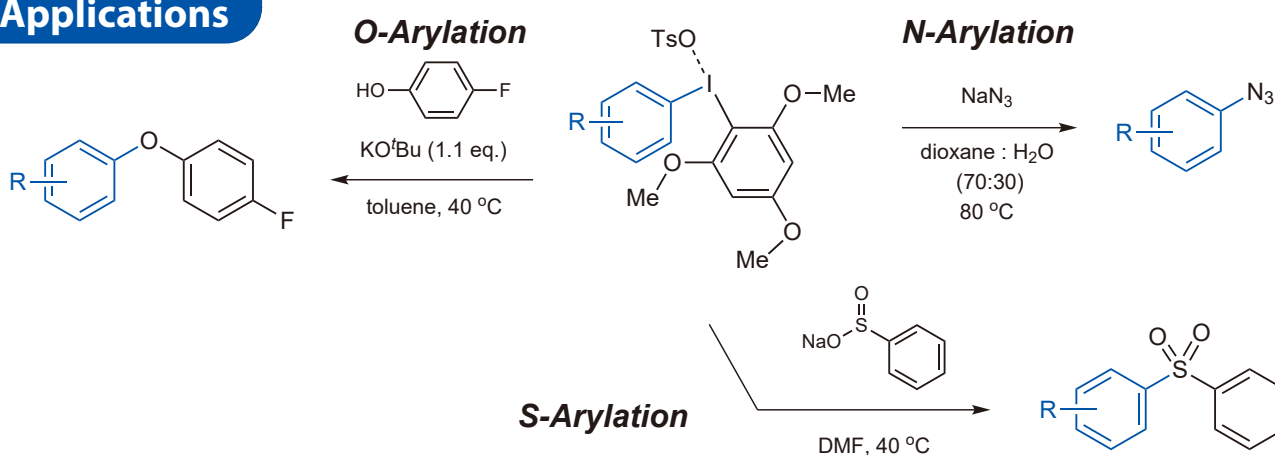


200mg
[P2412]



200mg
[T3622]

Applications



Reference T. L. Seidl, S. K. Sundalam, B. McCullough, D. R. Stuart, *J. Org. Chem.* **2016**, *81*, 1998. <https://doi.org/10.1021/acs.joc.5b02833>

Introduction of the Researcher

The Stuart Group



Dr. **David R. Stuart**
Portland State
UNIVERSITY



Research Description

The Stuart Research Group has recently developed a one-pot synthesis of aryl(2,4,6-trimethoxyphenyl)iodonium tosylate salts and demonstrated that these nascent arylation reagents selectively transfer the aryl group to C-, N-, O-, and S-nucleophiles. Several features make these appealing reagents: free-flowing bench-stable powders at ambient temperature; stable indefinitely when stored away from light; and react with diverse nucleophiles without the need for additional catalyst or inert atmosphere under mild conditions. The iodonium tosylate salts also serve as linchpin reagents to access salts with a variety of other counter anions, such as bromide, iodide, triflate, tetrafluoroborate, hexafluorophosphate, and trifluoroacetate.

[4-(Bromomethyl)phenyl](2,4,6-trimethoxyphenyl)iodonium <i>p</i>-Toluenesulfonate	200mg [B5269]
(3,5-Dichlorophenyl)(2,4,6-trimethoxyphenyl)iodonium <i>p</i>-Toluenesulfonate	200mg / 1g [D5145]
(5-Fluoro-2-nitrophenyl)(2,4,6-trimethoxyphenyl)iodonium <i>p</i>-Toluenesulfonate	200mg [F1110]
[4-Fluoro-3-(trifluoromethyl)phenyl](2,4,6-trimethoxyphenyl)iodonium <i>p</i>-Toluenesulfonate	200mg / 1g [F1111]
Phenyl(2,4,6-trimethoxyphenyl)iodonium <i>p</i>-Toluenesulfonate	200mg / 1g [P2412]
[(4-Trifluoromethyl)phenyl](2,4,6-trimethoxyphenyl)iodonium <i>p</i>-Toluenesulfonate	200mg / 1g [T3622]

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