

## Directed *ortho* Metalation: Soon to be a Textbook Reaction?

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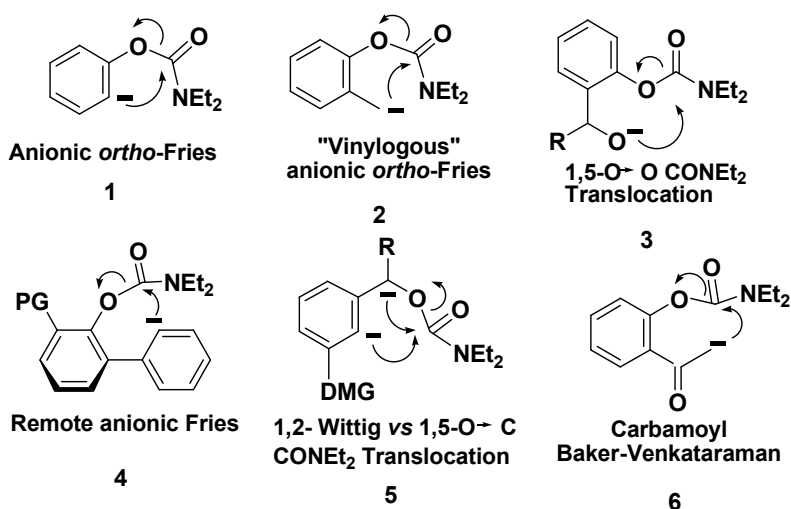
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*"The most common reaction of aromatic compounds is electrophilic aromatic substitution. Many different substituents can be introduced ... Starting from only a few simple materials, we can prepare many thousands of substituted aromatic compounds."*

J. McMurry, *Organic Chemistry*, 5<sup>th</sup> Ed., Brooks/Cole, Pacific Grove, CA, 2000, p. 592.

Over sixty years ago, Gilman and Wittig independently and concurrently observed the *ortho*-deprotonation of anisole by alkylolithium reagents and thereby discovered the Directed *ortho* Metalation (DoM) reaction. The systematic studies by Hauser in the early 1960s on other Directed Metalation Groups (DMGs) and, subsequently, the discoveries of Beak, Christensen, Gschwend, Meyers, Muchowski, and others in the late 1970s propelled this process into the arsenal of the synthetic organic chemist. The last decade has seen increasing application of DoM chemistry in large-scale industrial processes.

Our group aims to enhance the earlier findings, develop new carbanionic aromatic chemistry, and connect the methods to evolving modern methodology. The end point is to contribute new practical methodology with scope and application. This lecture will provide a perspective of the evolving opportunities offered by DoM and its offsprings as exemplified graphically below which will hopefully give a flavor of modern anionic aromatic chemistry in chemical synthesis.



Hartung, C.G.; Snieckus, V. In Astruc, D. Ed. *Modern Arene Chemistry*, Wiley-VCH; New York, 2002, 330-367. Macklin, T.; Snieckus, V. In Dyker, Ed. *Handbook of C-H Transformations*, Wiley-VCH; New York, 2005, in press.