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Electron Transfer Reagents in Organic Synthesis

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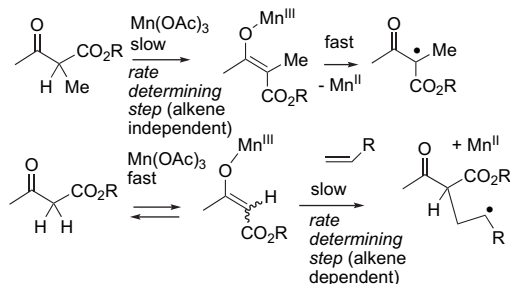
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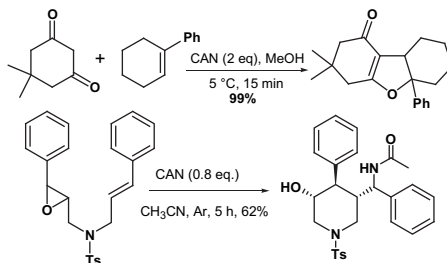
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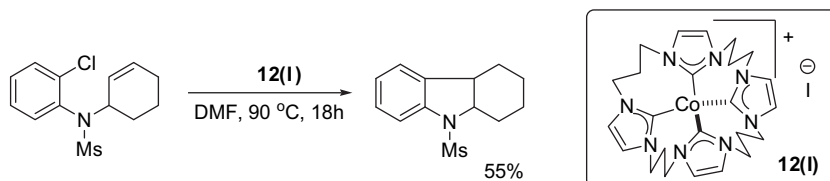
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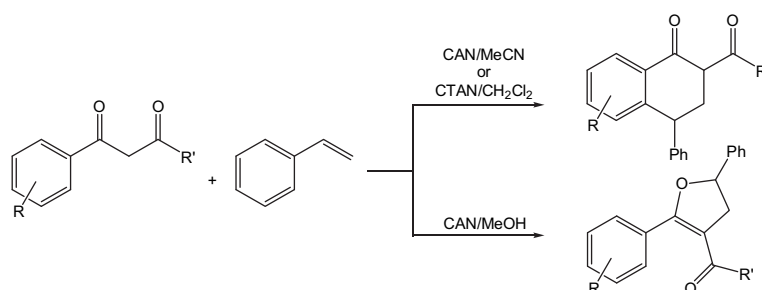
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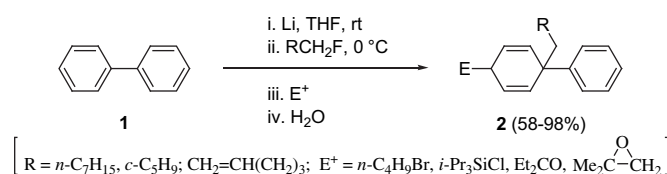
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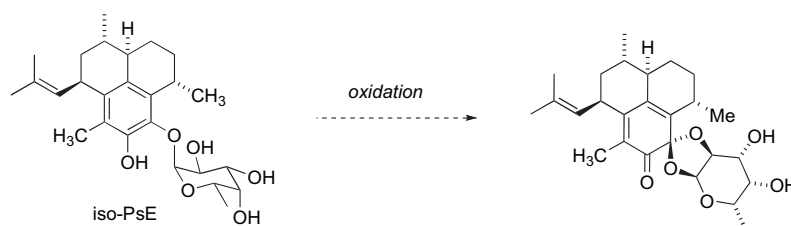
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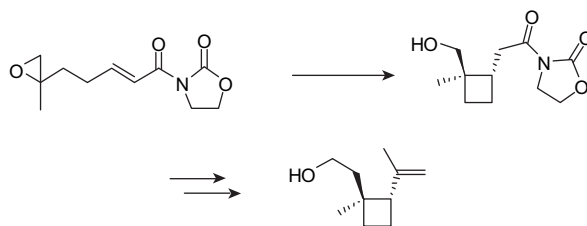
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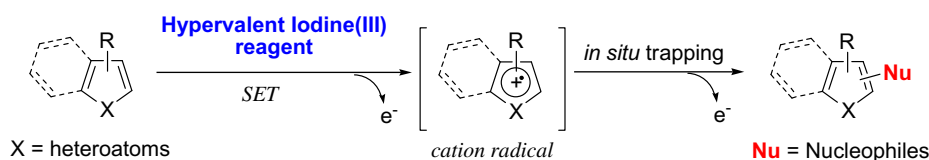
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Toshifumi Dohi, Motoki Ito, Nobutaka Yamaoka, Koji Morimoto, Hiromichi Fujioka, Yasuyuki Kita*

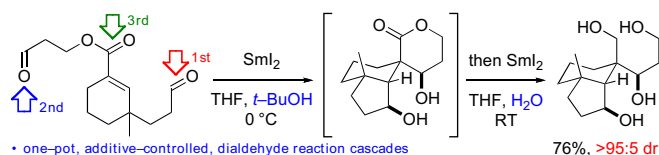


In 1994, we first determined the single-electron-transfer (SET) oxidation ability of phenyliodine(III) bis(trifluoroacetate) (PIFA) toward phenyl ethers, affording the corresponding aromatic cation radicals. Since then, hypervalent iodine(III) has been utilized as a selective and efficient SET oxidizing agent that enables a variety of direct C–H functionalizations of aromatic rings in electron-rich arenes under mild conditions. We have now extended the original method to work in a series of heteroaromatic compounds such as thiophenes, pyrroles, and indoles. The investigations and results obtained since the start of this century are summarized in this article.

Sml₂-mediated dialdehyde ‘radical then aldol’ cyclization cascades: a feasibility study

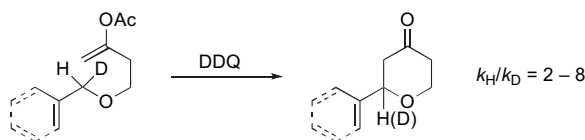
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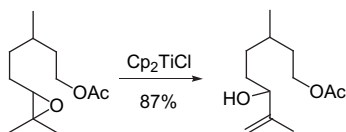
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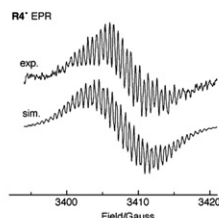
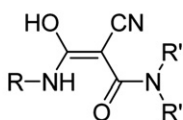
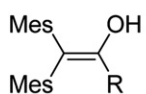
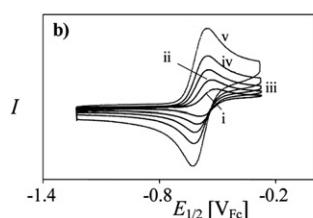
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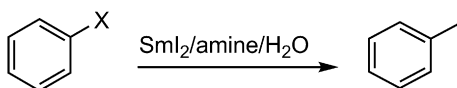
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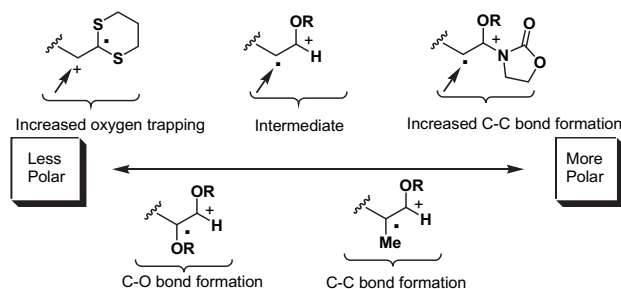
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Tobias Ankner, Göran Hilmersson*

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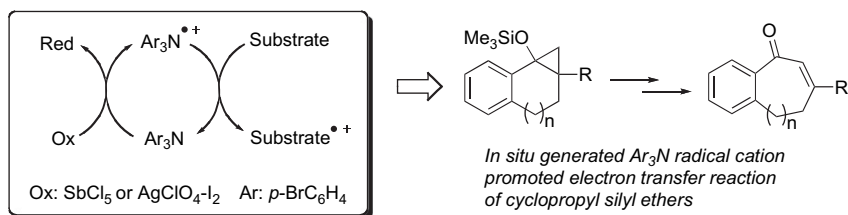
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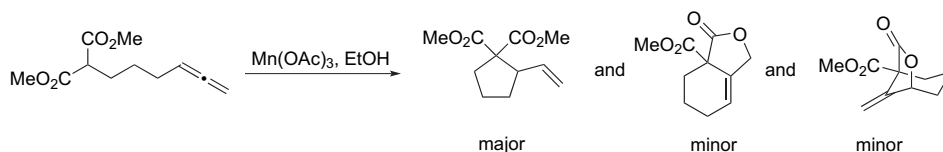
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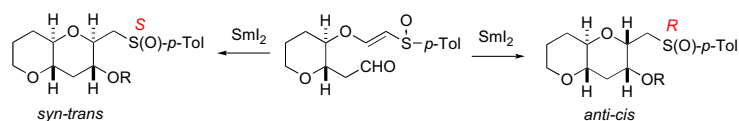
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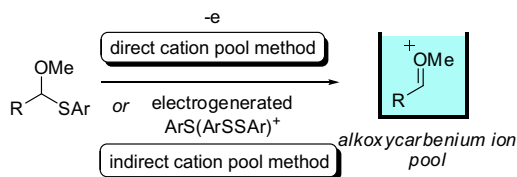
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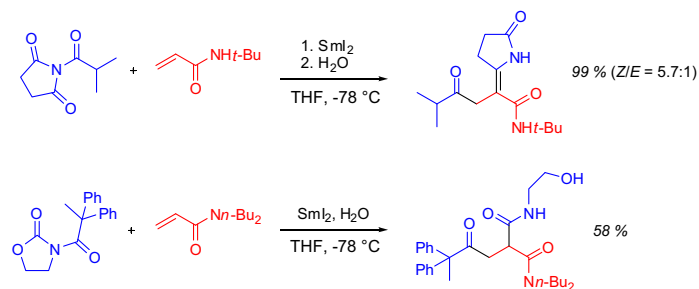
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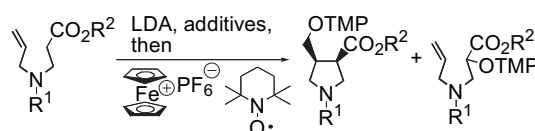
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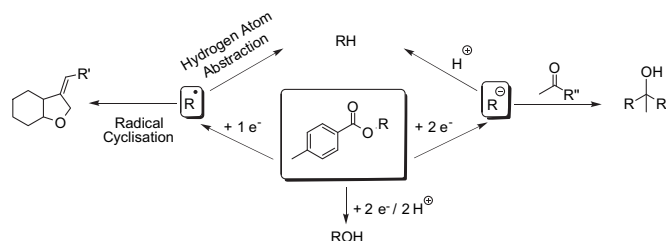
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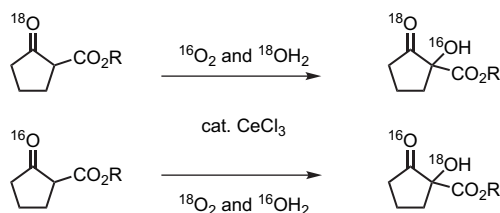
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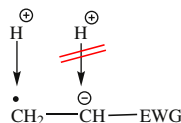
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*Corresponding author

Supplementary data available via ScienceDirect

COVER

The cover graphic illustrates the diversity of reagents and conditions for oxidative and reductive electron transfer that are available to the synthetic organic chemist and that are featured in this Symposium-in-Print.

Cover figure designed by David and Lise Procter.

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