

A C-H Oxidation Strategy for Complex Molecule Synthesis

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Functionalization of C-H bonds through mild, selective methods holds tremendous potential as a powerful advance for synthetic chemistry. However, to this point, few C-H activation methods have been applied to advanced and/or complicated substrates. Our lab has previously described a DMSO/Pd^{II} mediated allylic oxidation that converts α -olefins to the (*E*)-allylic acetates. Advances in this linear, allylic C-H oxidation methodology will be discussed that have improved the efficiency and practicality of the reaction. A general strategy for the synthesis of complicated, polyoxygenated frameworks and its application to the enantioselective total synthesis of a hexose will also be presented.