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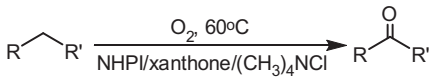
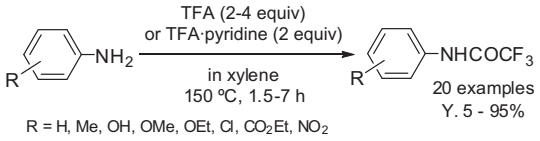
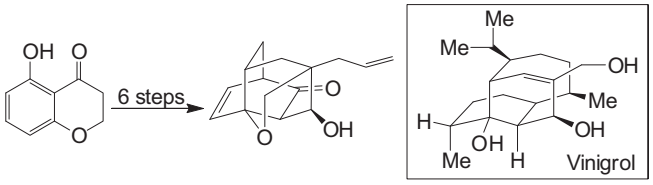
Contents

Communications

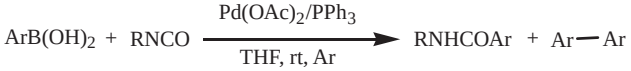


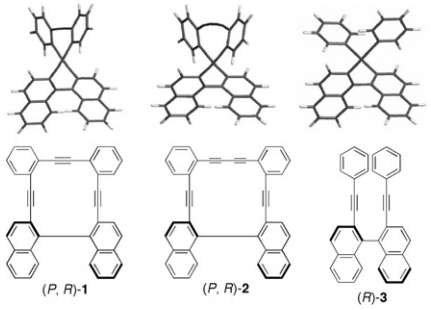
A nonmetal catalytic system consisting of *N*-hydroxyphthalimide, xanthone, and tetramethylammonium chloride was developed. A wide range of hydrocarbons could be oxygenated efficiently with molecular oxygen under mild conditions.

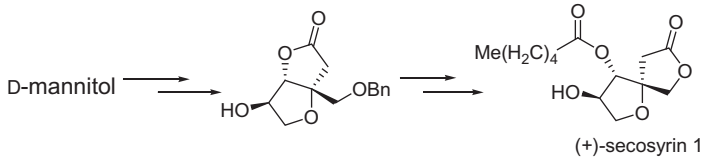


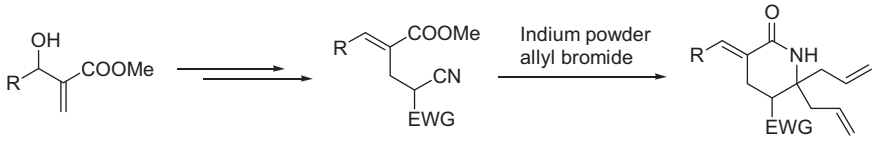


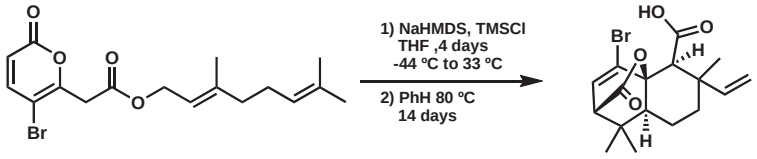
Detailed in this Letter is an Adler–Becker oxidation strategy towards vinigrol. The effects of substitution were shown to greatly impact successes of both the oxidative dearomatization and Diels–Alder reactions.

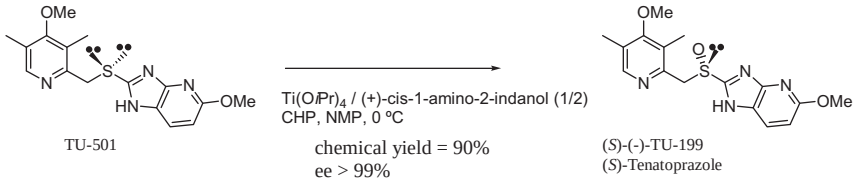




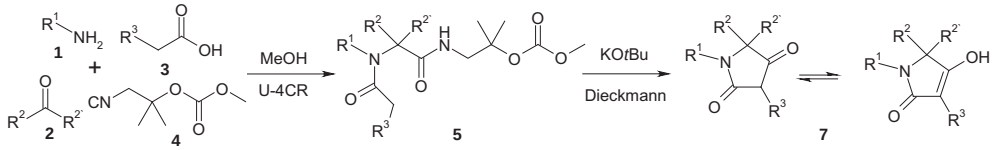




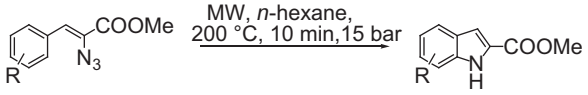


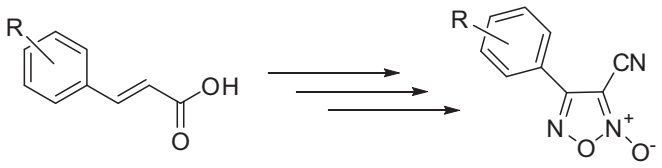


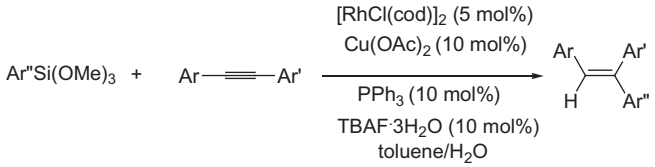
Asymmetric oxidation of TU-501 has been achieved using cumene hydroperoxide (CHP) in the presence of titanium tetraisopropoxide (Ti(O*i*Pr)$_4$) and (+)-(1*R*,2*S*)-*cis*-1-amino-2-indanol, in a polar aprotic solvent at 0–20 °C, to chemoselectively give (*S*)-TU-199 with an enantiomeric excess of >99%, a chemoselectivity of >90% and a chemical yield of >90%.

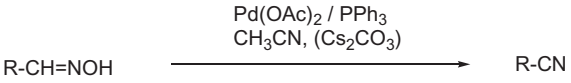


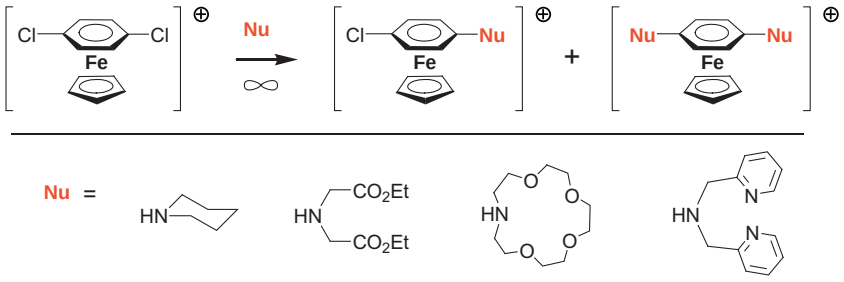
Tetramic acid derivatives constitute an important class of nitrogen containing heterocycles, and are key structural motifs in many natural products of terrestrial and marine origin. The interesting biological and structural diversity of this class of substances makes it a particularly interesting template for the design of compound libraries in search of small molecules that effect cellular signalling pathways. Therefore, a novel combinatorial synthesis of tetramic acids by an Ugi/Dieckmann condensation is described.

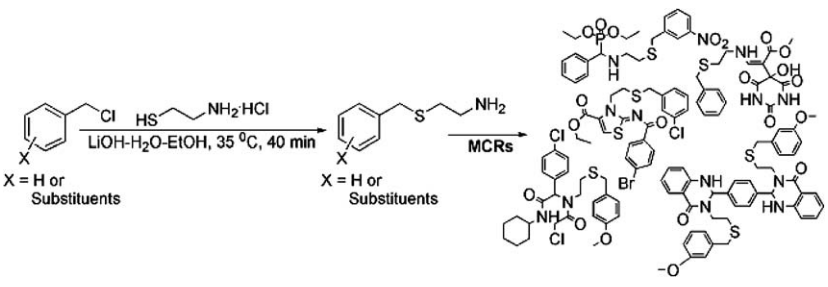


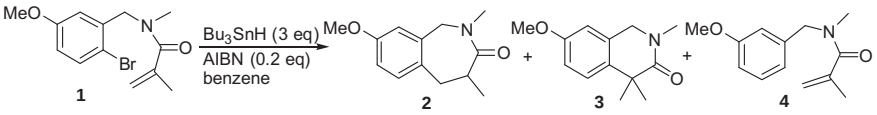


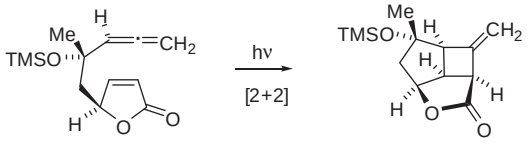


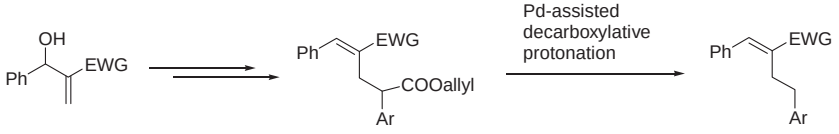


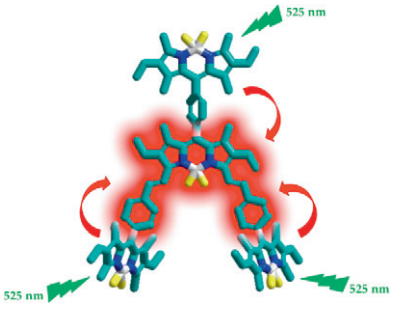


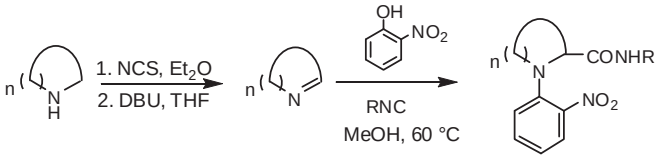




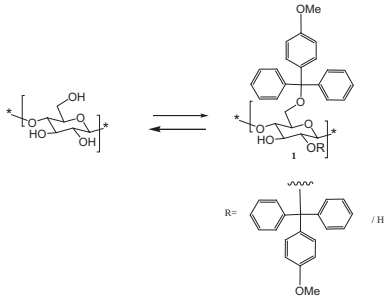


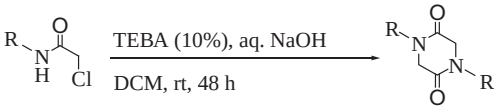




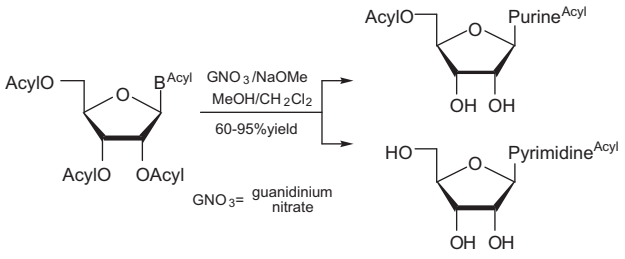


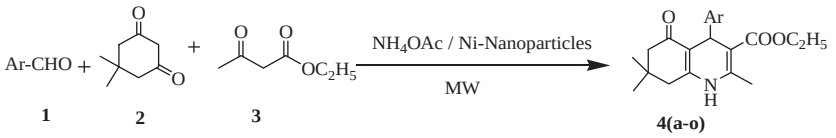
N-Aryl piperidines and pyrrolidines are formed by way of Ugi–Smiles couplings of cyclic imines.





A simple and efficient one-step procedure is described for the synthesis of a number of symmetrical 1,4-disubstituted piperazine-2,5-diones under phase transfer conditions.





Polyhydroquinoline derivatives have been prepared efficiently in a one-pot synthesis via Hantzsch condensation using nanosized Nickel (Ni) as a heterogeneous catalyst. The present method does not involve any hazardous organic solvents or catalysts. The smaller size of Ni (80 ± 0.5 nm) having a higher surface to volume ratio has promising features for the reaction response such as the shortest reaction time, excellent product yields, simple work-up procedure, and purification of products by non-chromatographic methods.

*Corresponding author
Supplementary data available via ScienceDirect

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