

Heterogeneous Cooper-Catalyzed Cross-Coupling for Sustainable Synthesis of Diverse Allenes

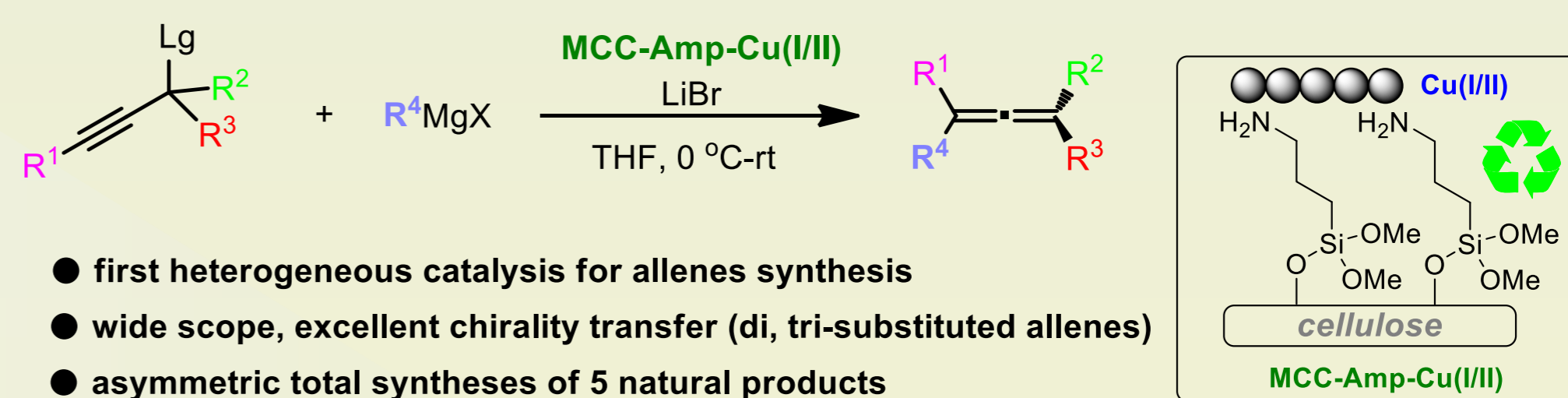
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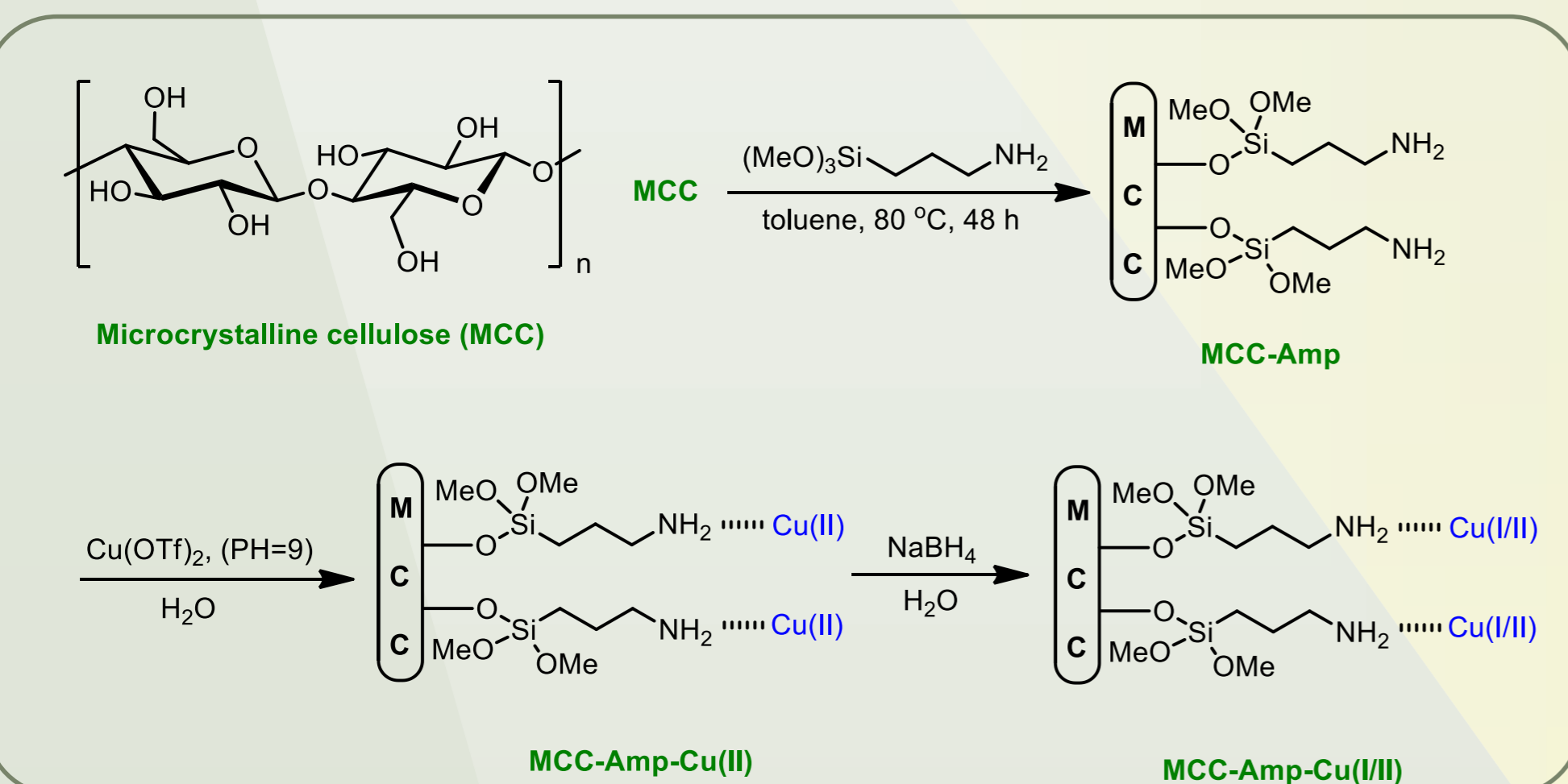
²AstraZeneca R&D, Innovative Medicines, Cardiovascular and Metabolic Disorders, Medicinal Chemistry, SE-431 83 Mölndal, Sweden

INTRODUCTION

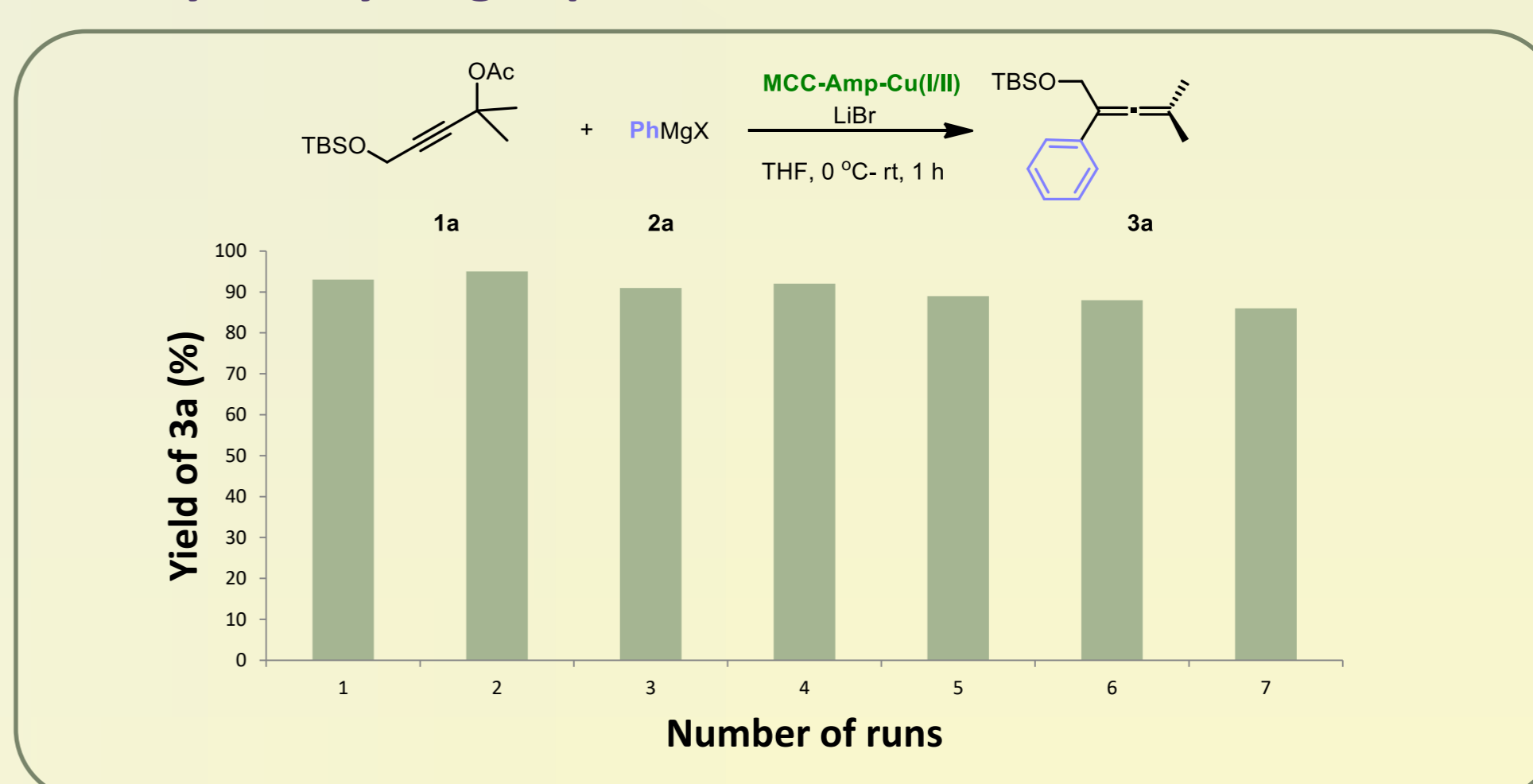
A sustainable and general methodology for the synthesis of diverse allenes was developed by using a cellulose supported heterogeneous copper catalyst. This method represents the first example of heterogeneous cross-coupling of propargylic substrates with Grignard reagent for the synthesis of allenes. By using the developed protocol as the key step, we have accomplished the asymmetric total syntheses of five valuable allenic natural products.



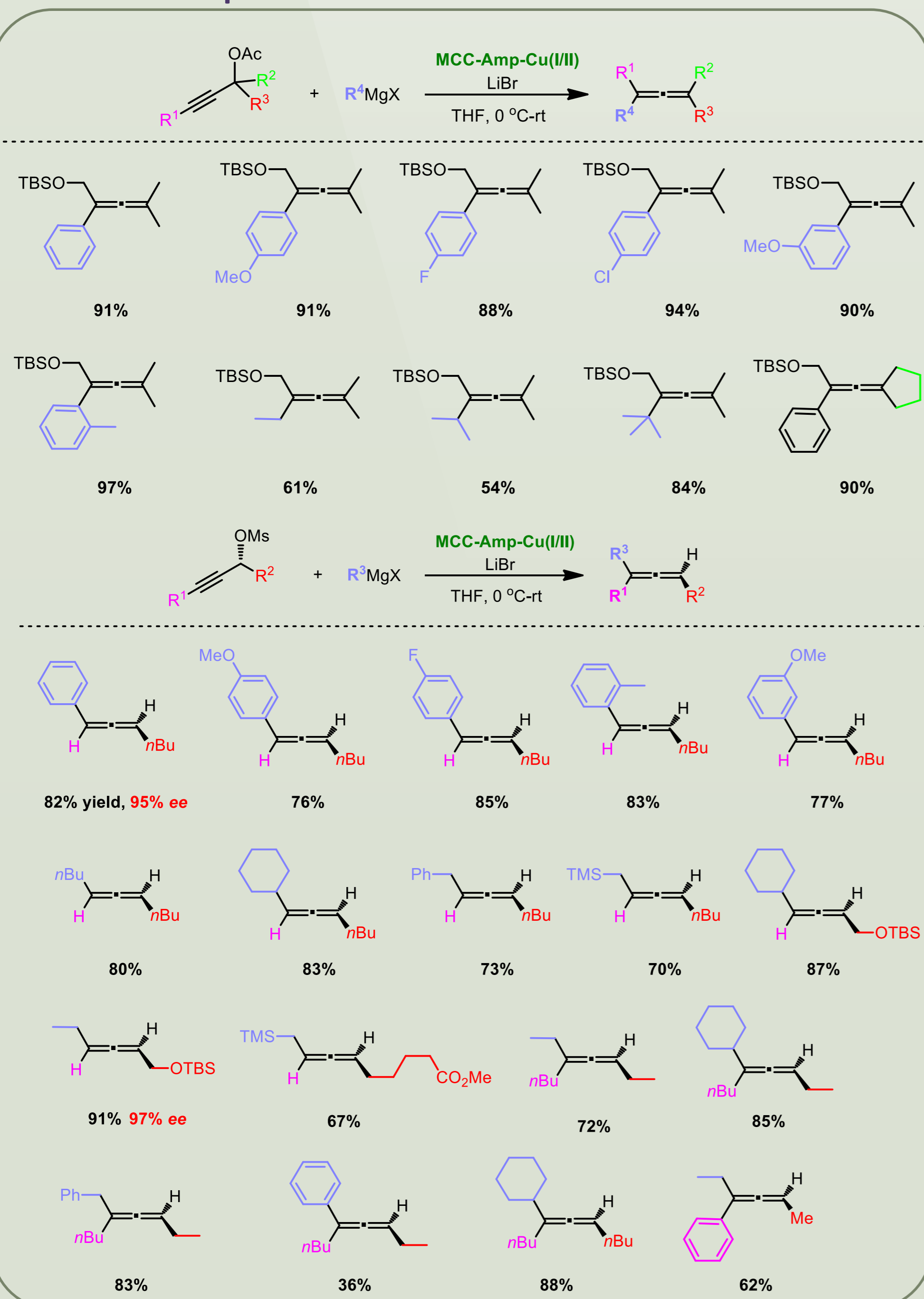
Preparation of MCC-Amp-Cu(I/II) Catalyst



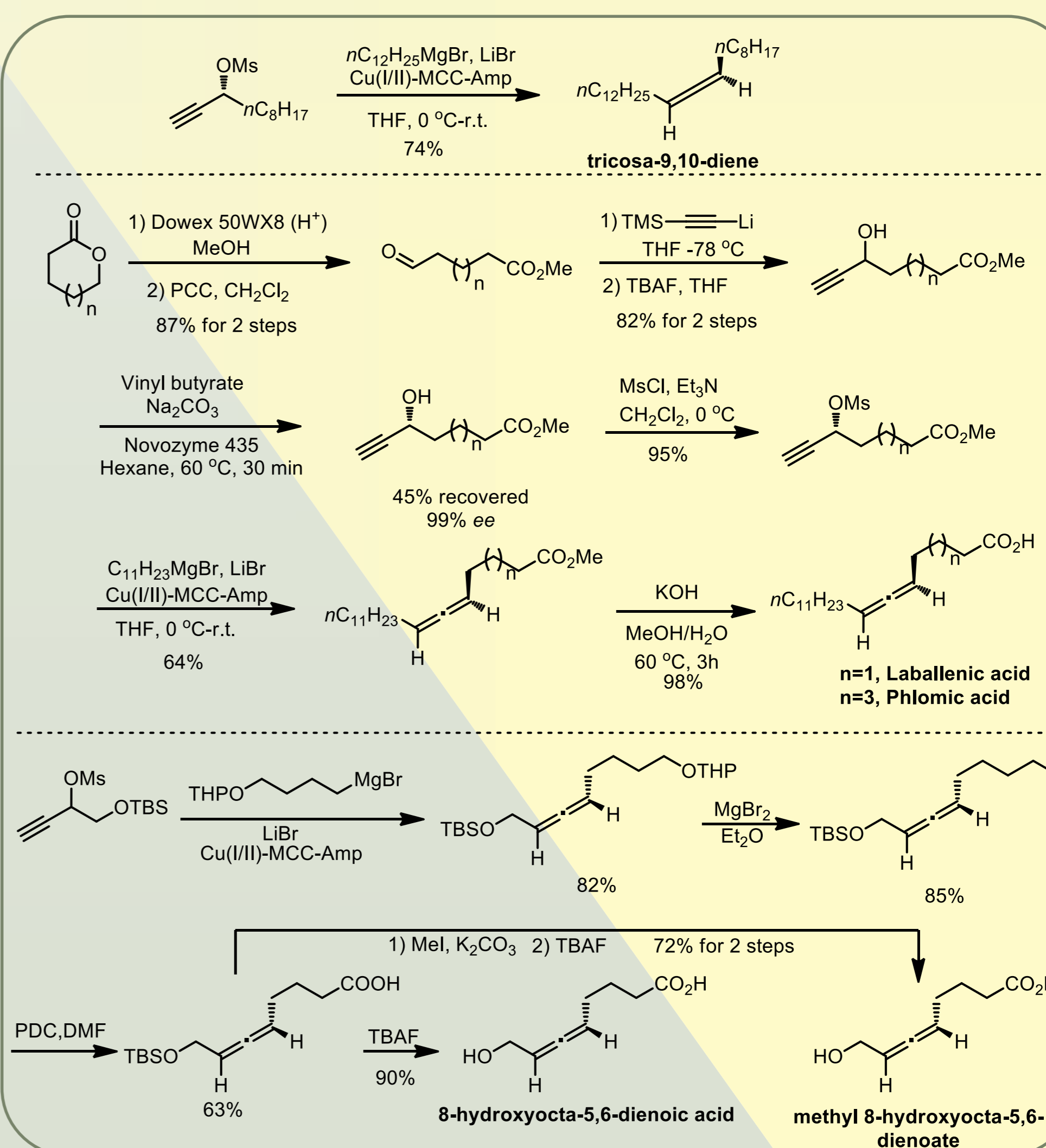
Catalyst Recycling Experiments



Selected Examples



Application in Total Syntheses of Natural Products



ACKNOWLEDGMENTS



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