

## Abstract

Manganese oxide octahedral molecular sieve (OMS) materials with well-defined pores have been extensively studied over two decades due to their intriguing chemical and physical properties. OMS-2, the synthetic cryptomelane form of manganese oxide, was synthesized by a modified reflux method and was found to be highly active for obtaining  $\alpha,\beta$ -unsaturated esters (up to 95 % yield and with high diastereoselectivities) from a variety of benzyl, heteroaryl, allyl and alkyl alcohols via one-pot alcohol oxidation-Wittig reaction. The transformation utilizes air as the stoichiometric oxidant, and the inexpensive catalyst can be recovered and reused.