Unusual Behavior of a Novel Heterogeneous Chiral Dimer Cr(III)−Salen Complex in the Epoxidation/Epoxide Ring-Opening Reaction of trans-Methylcinnamate Ester†

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Unusual behaviour of a novel heterogeneous chiral dimer CrIII-salen complex in the epoxidation/epoxide ring-opening reaction of *trans*-methylcinnamate ester

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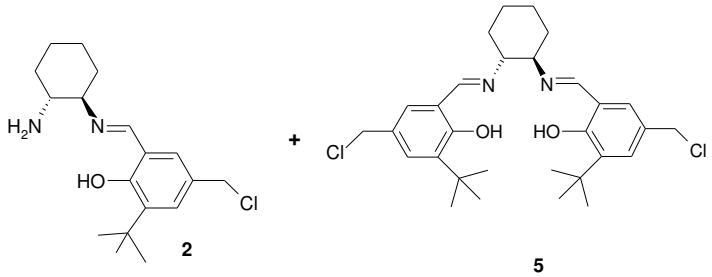
I. The characterization of the salen structure and the intermediates from its synthesis.



Molar ratio **2** : **5** = 3 : 2

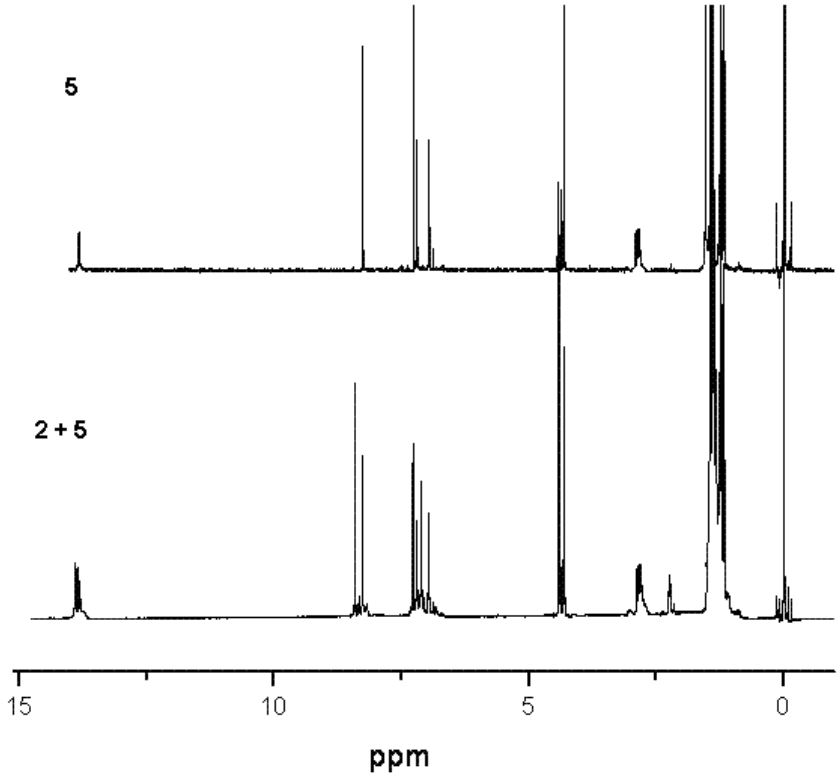


Figure 1S. ^{1}H-NMR spectra of the (**2+5**) mixture and the compound (**5**)

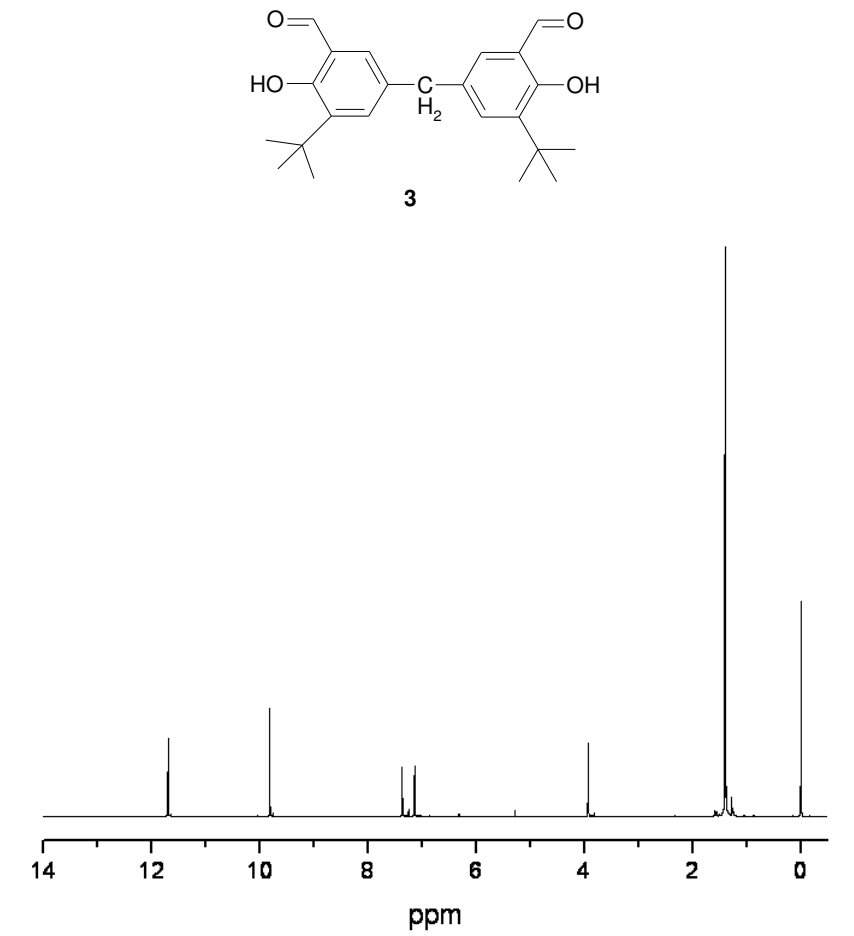
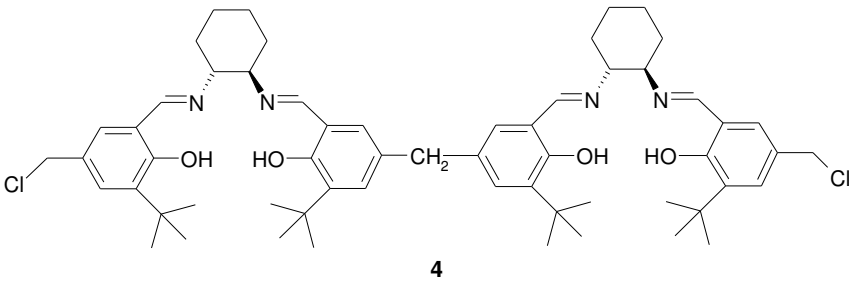


Figure 2S. ^{1}H-NMR spectra of the compound (**3**)



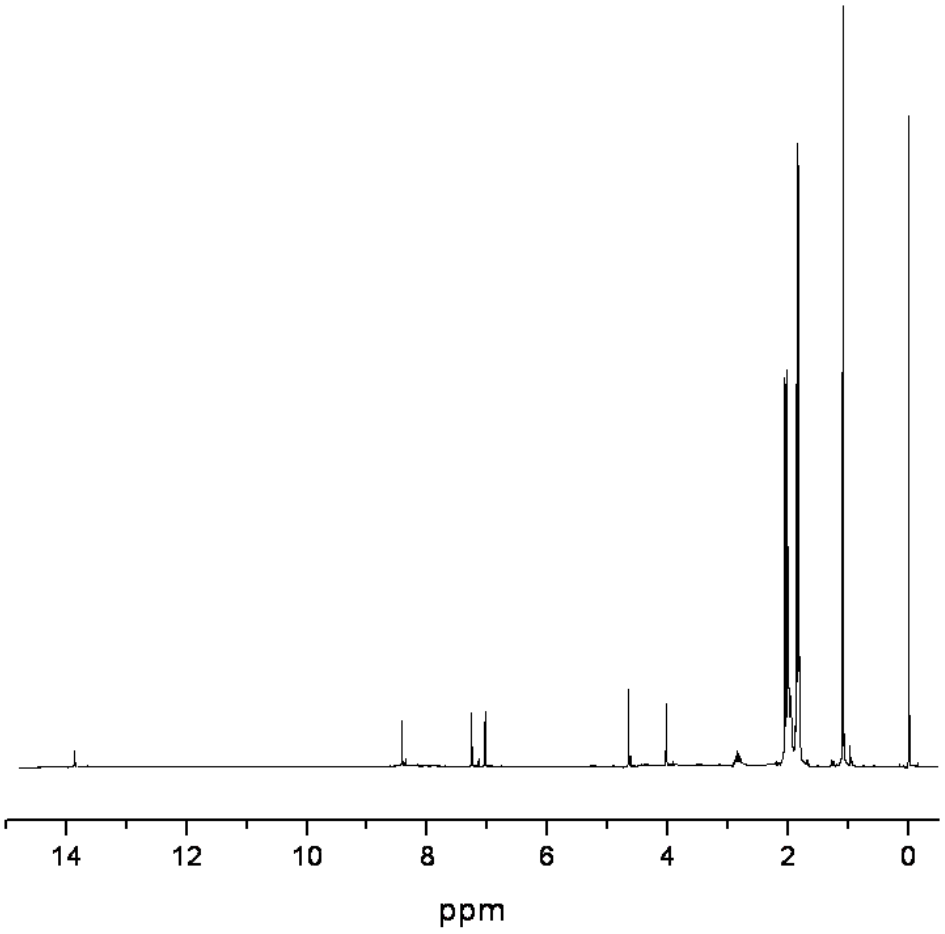


Figure 3S. ^{1}H-NMR spectra of the salen dimer (**4**)

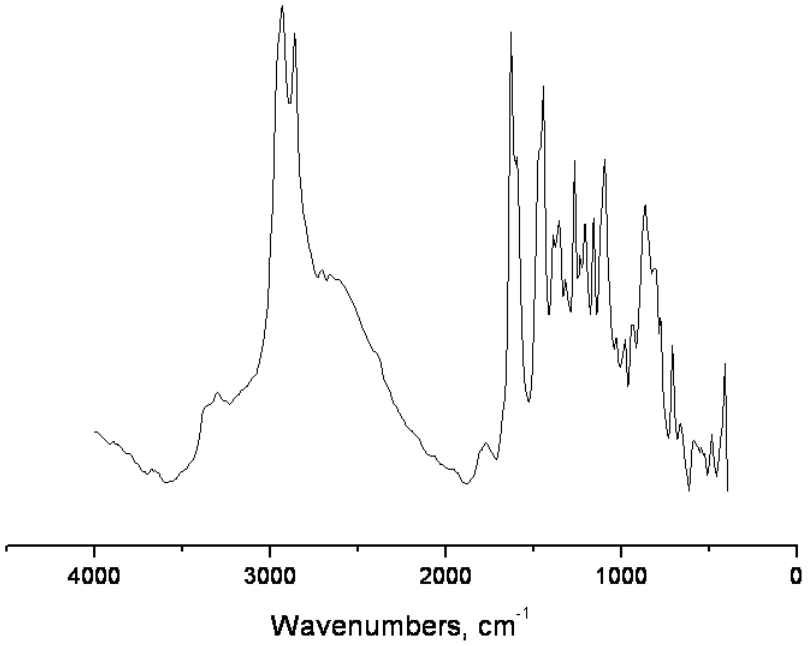


Figure 4S. The DRIFT spectra of the dimer-salen complex (**4**)

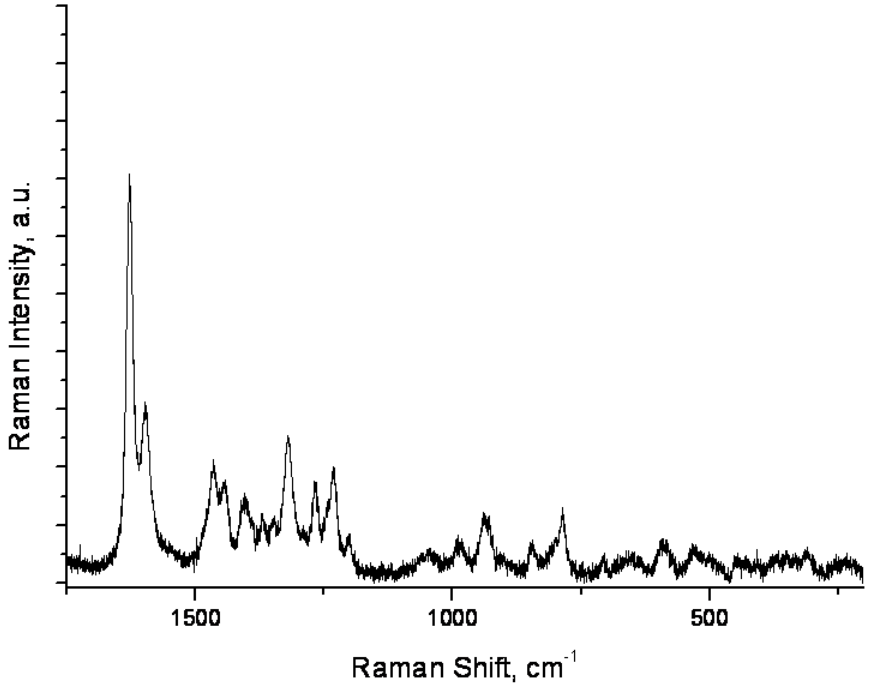


Figure 5S. The Raman spectra of the dimer-salen complex (**4**)

II. The characterization of the dimer Cr(III)-salen structure.

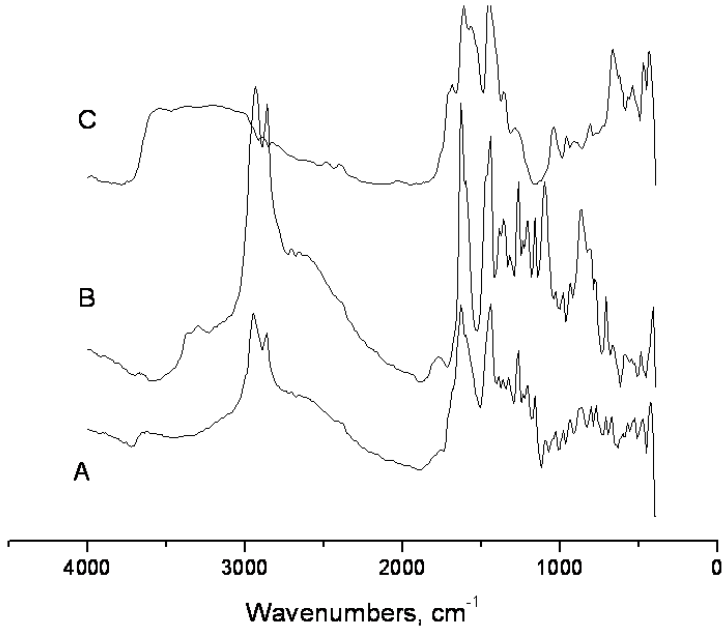


Figure 6S. The DRIFT spectra of the Cr(III)dimer-salen complex (A), the free dimer-salen (B) and Cr(III) acetate (C)

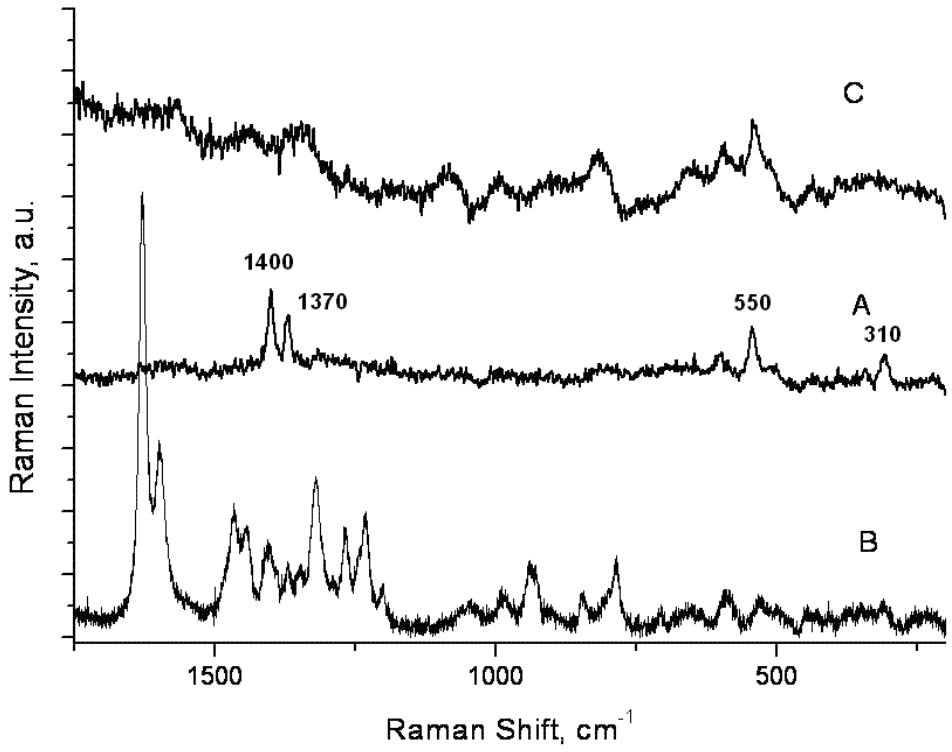


Figure 7S. The Raman spectra of the of the Cr(III)dimer-salen complex (A), the free dimer-salen (B) and Cr(III) acetate (C)

III. The analysis and characterization of the reaction products

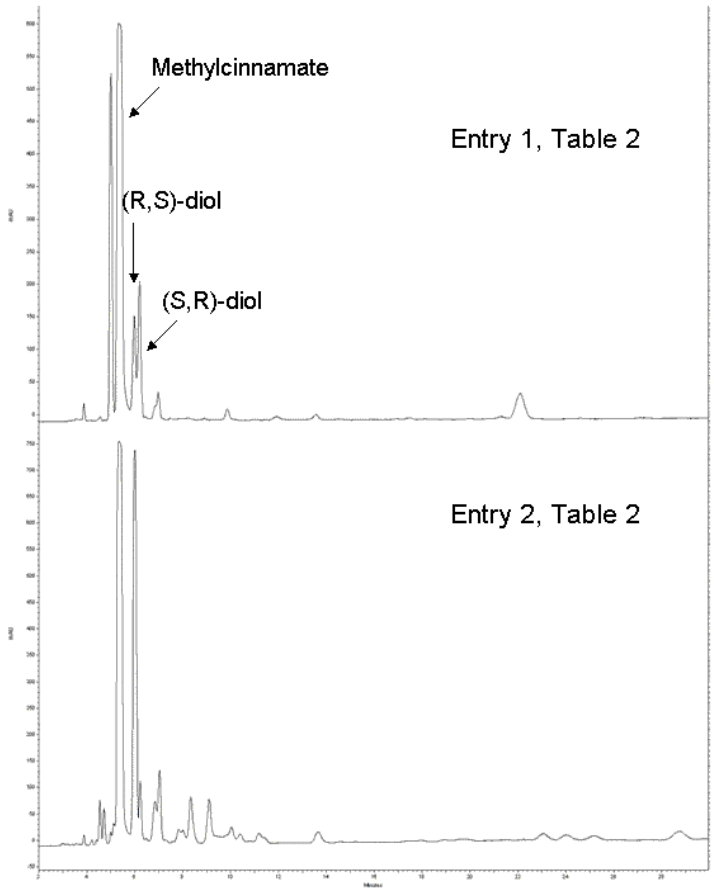


Figure 8S. The UPLC analysis of the reaction products corresponding to entry 1 and entry 2, Table2

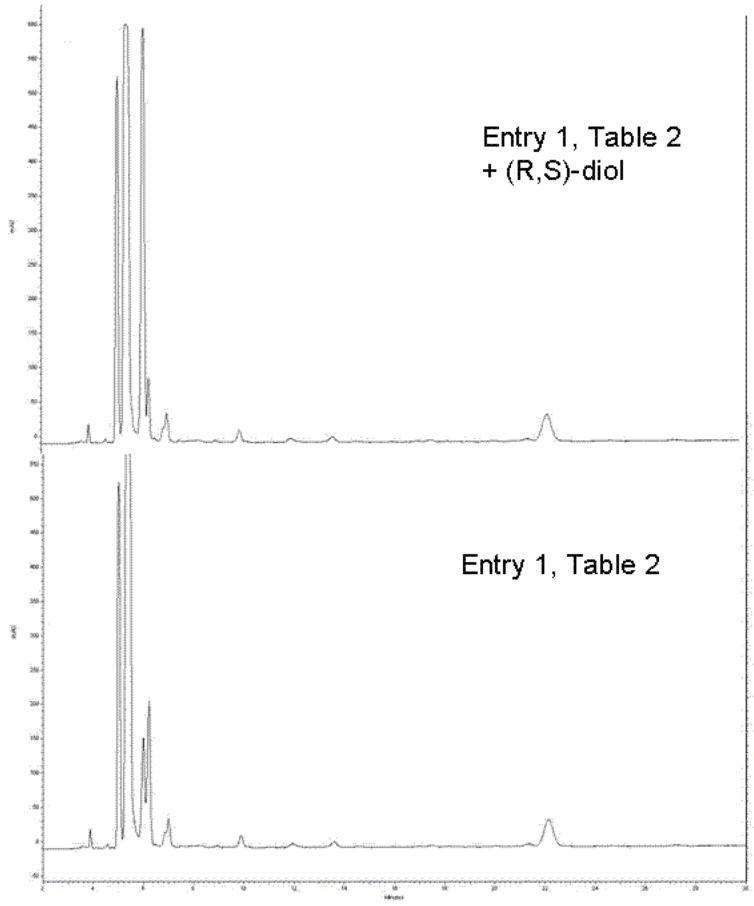


Figure 9S. UPLC analysis for the reaction products corresponding to entry 1, Table 2 and by co-adding of pure commercial (R,S)-diol (Aldrich)

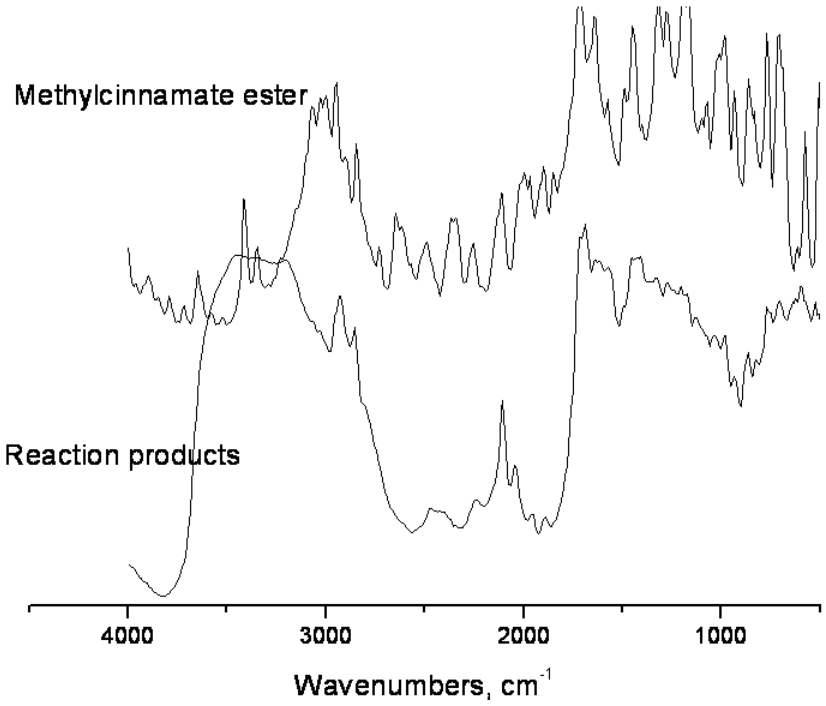


Figure 10S. DRIFT spectra of trans-methylcinnamate ester and azido-alcohol (the DRIFT spectra correspond to the GC analysis from Figure YS and to entry 12, Table 2)

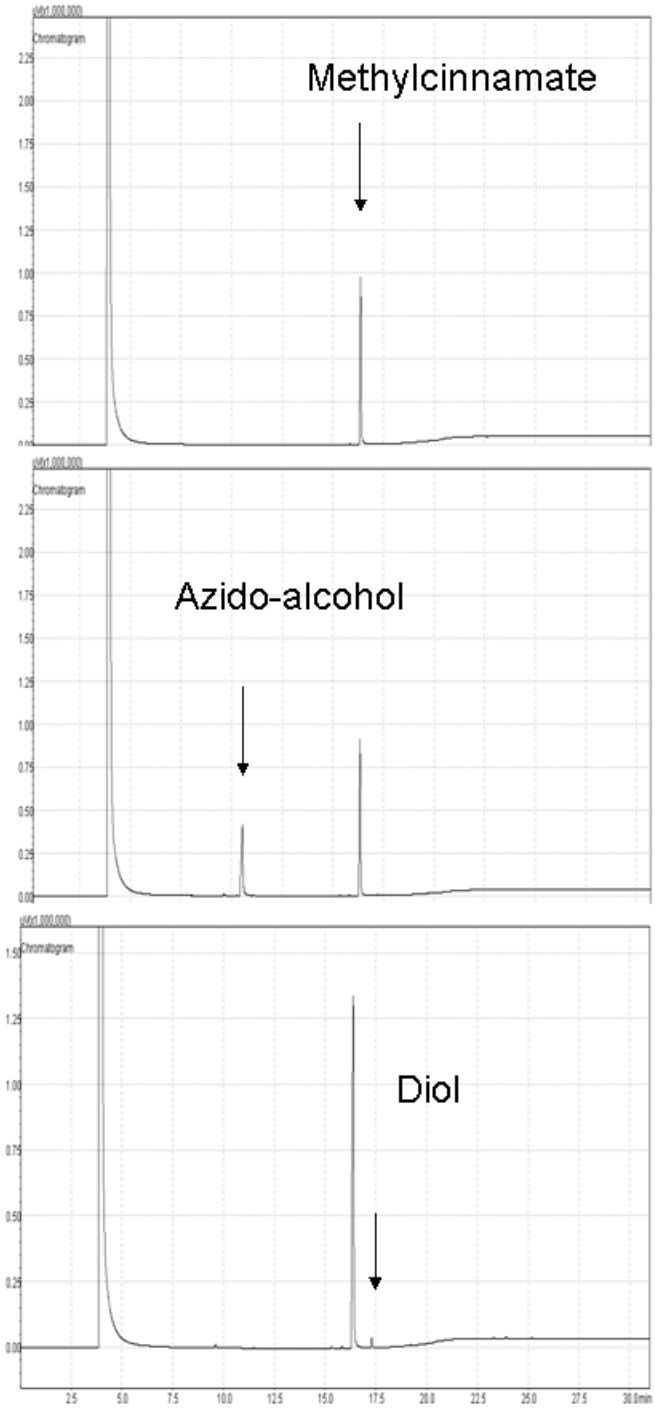


Figure 11S. The GC chromatograms for methylcinnamate ester, azido-alcohol and diol (the chromatogram with azido-alcohol corresponds to entry 12, Table 2)