Preparation of Boc-Protected Cinnamyl-Type Alcohols: A Comparison of the Suzuki-Miyaura Coupling, Cross-Metathesis, and Horner-Wadsworth-Emmons Approaches and their Merit in Parallel Synthesis

Jan Štambaský, Andrei V. Malkov* and Pavel Kočovský,*

Department of Chemistry, WestChem, University of Glasgow, Glasgow G12 8QQ, UK

Supporting Information

Contents:

1. Horner-Wadsworth-Emmons reactions .................................................. S2
   a. Scheme S1 .................................................................................. S2
   b. Spectrum S1 (Expansion E1-E3) .............................................. S3
   c. Spectrum S1 (Expansion E4) ................................................... S4
   d. Spectrum S2 (Expansions E1-E3) .......................................... S5
   e. Spectrum S3 (Expansion E1) ................................................... S6
1. Horner-Wadsworth-Emmons reactions. The optimized reactions (Scheme S1) proved to be sufficiently selective to produce clean crude products. Sample spectra of crude reaction mixtures are provided.

**Scheme S1:** Carbonates 4 via HWE approach.

*Spectrum S1* shows crude reaction mixture of ethyl acrylate 10o. Characteristic $^3J$ coupling constants indicate trans-double bond of 10o. Expansions E1-E3 show impurities in particular regions, along with integration values relating to signals of 10o. Expansion E4 shows $^3J$ coupling constants of impurities, indicating that no (Z)-configured double bond is present.

*Spectrum S2* shows crude reaction mixture of ethyl acrylate 10u. Characteristic $^3J$ coupling constants indicate trans-double bond of 10u. Expansions E1-E3 show impurities in particular regions, along with integration values relating to signals of 10u.

*Spectrum S3* shows crude reaction mixture of allyl alcohol 9u, and along with Expansion E1 show relative purity of 9u. This purity was sufficient for the Boc-functionalization of 9u.
Spectrum S1. Crude reaction mixture of 10o.
**S-4**


**10o**

Spectrum S1. Crude reaction mixture of 10o.
S-5

*Spectrum S2.* Expansion E1.

*Spectrum S2.* Expansion E2.

*Spectrum S2.* Expansion E3.

*Spectrum S2.* Crude reaction mixture of 10u.
**Spectrum S3.** Expansion E1.

**Spectrum S3.** Crude reaction mixture of 9u.