Supporting Information for

Stereoselective Synthesis of (E)-3,3-diaryl and (E)-3-aryl-3-aryloxy Allylamines and Allylalcohols from *trans*-Cinnamyl chloride and alcohol

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1. Dehydrobromination optimization S2

2. 1H-NMR and 13C-NMR Compounds Spectra S3

3. NOE Experiments For determination of (E)-Configuration of Trissubstitued Products S28
1. Dehydrobromination optimization

Table S1: Optimization of 4a dehydrobromination conditions

<table>
<thead>
<tr>
<th>Entry</th>
<th>Temp. (°C)</th>
<th>Solvent</th>
<th>Base</th>
<th>Conversion (%)</th>
<th>Selectivity 5a (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>60</td>
<td>MeOH/THF</td>
<td>K₂CO₃</td>
<td>39</td>
<td>72</td>
</tr>
<tr>
<td>2</td>
<td>60</td>
<td>THF/MeOH</td>
<td>KOH</td>
<td>33</td>
<td>76</td>
</tr>
<tr>
<td>3</td>
<td>60</td>
<td>THF</td>
<td>K₂CO₃</td>
<td>38</td>
<td>51</td>
</tr>
<tr>
<td>4</td>
<td>60</td>
<td>THF</td>
<td>KOH</td>
<td>37</td>
<td>53</td>
</tr>
<tr>
<td>5</td>
<td>25</td>
<td>THF</td>
<td>KOH</td>
<td>40</td>
<td>98</td>
</tr>
<tr>
<td>6</td>
<td>35</td>
<td>THF</td>
<td>KOH</td>
<td>100</td>
<td>97 (88)</td>
</tr>
</tbody>
</table>

Conditions: 4a (1 mmol), base (2 mmol), solvent (8 ml). Internal standard: undecane. * 16 h, † 48 h. the value in brackets corresponds to isolated yield. Conversion determined by 1H-NMR and the isomer distribution (selectivity) determined by GC and GC-MS.
2. \(^1\)H-NMR and \(^{13}\)C-NMR Compounds Spectra

![Compound 3a spectra](image-url)
Compound 4a
Compound 4b
Compound 4c
Compound 5a
Compound 6a
Compound 8a
Compound 6b
Compound 9c
Compound 9b
Compound 10b
Compound 10c
Compound 11c
3. NOE Experiments For determination of \((E)\)-Configuration of Trissubstitued Products

NOE-1D (CycloNoe – Varian 300MHz) Experiment to determine the \((E)\)-configuration of vinyl bromides 5. When the aromatic hydrogens are saturated, is possible to see NOE correlation with allylic CH\(_2\) (red). When allylic CH\(_2\) is saturated, is possible to see NOE correlation with aromatic hydrogens (blue). When olefinic hydrogen is saturated, no NOE correlation with aromatic is observed.
NOE-1D (CycloNoe – Varian 300 MHz) experiment to determine the $E$-configuration of the vinyl bromides 5. With the saturation of allylic CH$_2$ is possible to see NOE correlation with aromatic hydrogens (blue). With saturation of olefinic hydrogens, no NOE correlation is observed with aromatics. (green).
NOE-1D (CycloNoe – Varian 300 MHz) experiment to determine the $E$-configuration of the trisubstituted olefins. With the saturation of the olefinic hydrogen it is possible to note NOE correlation with the aromatic hydrogen singlet orto-methyl.
NOE-2D (Varian 400, mixing time 600 ms) experiment to determine the $E$-configuration of the trisubstitued olefins. It is possible to observe NOE correlation between the hydrogens of the SO$_2$Me substituted aryl group with the olefinic hydrogen (2). It is also possible to note NOE correlation of phenyl hydrogens and allylic CH$_2$ (1).
NOE-2D (Varian 400, mixing time 600 ms) experiment to determine the $E$-configuration of the trisubstitued vinyl-ethers. It is possible to observe NOE correlation between allylic CH$_2$ and hydrogens of the phenyl ring near to oxygen.
NOE-2D (Varian 400, mixing time 600 ms) experiment to determine the $E$-configuration of the trisubstituted vinyl-ethers. It is possible to observe NOE correlation between allylic CH$_2$ and hydrogens of the unsubstituted phenyl ring.