# A Quick Installation of 1,4-Difunctionality via Regioselective NickelCatalyzed Reductive Coupling of Ynoates and Aldehydes 

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Table of Contents
Deuterium-labeling experiments. ..... S-2
${ }^{1} \mathrm{H}$ and ${ }^{31} \mathrm{C}\left\{{ }^{1} \mathrm{H}\right\}$ NMR spectra of $\mathbf{3 a}$ and $\mathbf{3 a} \mathbf{a}^{\prime}$ (Table 1) ..... S-3
${ }^{1} \mathrm{H}$ and ${ }^{31} \mathrm{C}\left\{{ }^{1} \mathrm{H}\right\}$ NMR spectra of $\mathbf{3 b} \mathbf{- j}$ (Table 2) ..... S-7
${ }^{1} \mathrm{H}$ and ${ }^{31} \mathrm{C}\left\{{ }^{1} \mathrm{H}\right\}$ NMR spectra of $\mathbf{3 k}$-s (Table 3 ) ..... S-25
${ }^{1} \mathrm{H}$ and ${ }^{31} \mathrm{C}\left\{{ }^{1} \mathrm{H}\right\}$ NMR spectra of 4-8 (Scheme 3) ..... $S-43$

Deuterium-labeling experiments. (1) The general procedure was followed except that $\mathrm{Et}_{3} \mathrm{SiD}$ was used in place of $\mathrm{Et}_{3} \mathrm{SiH}$. The isolated 1,4-difuncational product was analyzed by ${ }^{1} \mathrm{H}$ and ${ }^{2} \mathrm{H}$ NMR as shown below.

(2) The general procedure was followed except that PhCDO was used in place of PhCHO . The isolated 1,4-difuncational product was analyzed by ${ }^{1} \mathrm{H}$ and ${ }^{2} \mathrm{H}$ NMR as shown below.




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S-19


in $\mathrm{CDCl}_{3}$

































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| 18 | 170 | 16 | 15 | 1 | 1 | 1 | 110 | 10 |  | 1 | 70 | 6 |  | 10 |  | 1 |  |  |
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| 180 | 170 | 160 | 150 | 140 | 130 | 120 | 110 | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 | 0 |



${ }^{1} \mathrm{HNMR}$

in $\mathrm{CDCl}_{3}$




