Supporting Information
for
Reductions of aldehydes and ketones with a readily available N-heterocyclic carbene borane and acetic acid

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NMR spectra of all products

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Copies of $^\text{11}$B NMR spectra of boron products from Figure 1 ................................................................. S2
Copies of $^\text{1}$H NMR spectra of isolated reduction products ................................................................. S7

The experimental procedures for aldehyde and ketone reductions are described at the end of the paper. All of the resulting alcohols are known compounds. The $^\text{1}$H NMR spectra of the isolated alcohols (after automated flash chromatography) are included to show the quality of the products obtained from the reductions in Table 1, Table 2, and Scheme 3.
XP-98-43, 1 d, 11B, C6D6, 500, 2/7/2012

Figure 1, entry 2
Figure 1, entry 3
Figure 1, entry 4

XP-118-81, C6D6, 400A, 1/21/2013

Lamm and coworkers

NHC-borane reductions

Lamm and coworkers
Figure 1, entry 5
Figure 1, entry 6

XP-118-83, 11B, C6D6, 400A, 1/21/2013
VL-39-70

Lamm and coworkers

NHC-borane reductions

S7
VL-39-89

Lamm and coworkers

NHC-borane reductions

S8
Lamm and coworkers

NHC-borane reductions

TT-315

| Chemical Shift (ppm) | Intensity |
|---------------------|-----------|
| 7.489               | 1.94      |
| 7.483               | 2.06      |
| 7.468               |           |
| 7.461               |           |
| 7.424               |           |
| 7.212               |           |

Br

OH

H

13

S9
Lamm and coworkers

NHC-borane reductions

VL-39-92

15
VL-39-93-isolated

Lamm and coworkers

NHC-borane reductions
VL-39-94

Lamm and coworkers

NHC-borane reductions

Ph
OH

17

ppm
VL-39-95

Lamm and coworkers

NHC-borane reductions
VL-40-01-repeat
Lamm and coworkers

NHC-borane reductions

VL-40-02-r_08/17/12
Lamm and coworkers

VL-40-03-repeat-fr.(10-12)

NHC-borane reductions

S18
VL-40-06-product

S21
Lamm and coworkers

NHC-borane reductions

TT-314-3

Lamm and coworkers

NHC-borane reductions

S23