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## Supporting Information to:

### Highly Efficient Hydrosilylation of Alkenes by Organoyttrium Catalysts with Sterically Demanding Amidinate and Guanidinate Ligands

*Shaoyong Ge, Auke Meetsma, and Bart Hessen\**

#### Characterization data of organosilane products

##### **1-(Phenylsilyl)hexane (4a).**

<sup>1</sup>H NMR (400 MHz, C<sub>6</sub>D<sub>6</sub>, δ): 7.50 (m, 2H), 7.16 (m, 3H), 4.48 (t, 2H,  $J_{\text{HH}} = 3.66$  Hz, SiH<sub>2</sub>), 1.38 (m, 2H), 1.32-1.11 (m, 6H), 0.86 (t, 3H,  $J_{\text{HH}} = 7.32$  Hz, CH<sub>3</sub>), 0.81 (m, 2H). GC-MS:  $m/z = 192$  (M<sup>+</sup>).

##### **1-(Phenylsilyl)octane (4b).**

<sup>1</sup>H NMR (400 MHz, C<sub>6</sub>D<sub>6</sub>, δ): 7.49 (m, 2H), 7.16 (m, 3H), 4.47 (t, 2H,  $J_{\text{HH}} = 3.66$  Hz, SiH<sub>2</sub>), 1.40 (m, 2H), 1.27 (m, 4H), 1.21 (m, 6H), 0.89 (t, 3H,  $J_{\text{HH}} = 7.09$  Hz, CH<sub>3</sub>), 0.83 (m, 2H). GC-MS:  $m/z = 220$  (M<sup>+</sup>).

##### **2-(Phenylsilyl)ethylcyclohexane (4c).**

<sup>1</sup>H NMR (400 MHz, C<sub>6</sub>D<sub>6</sub>, δ): 7.50 (m, 2H), 7.16 (m, 3H), 4.47 (t, 2H,  $J_{\text{HH}} = 3.67$  Hz, SiH<sub>2</sub>), 1.64 (m, 5H), 1.29 (m, 2H), 1.23-1.02 (m, 4H), 0.90-0.68 (m, 4H). GC-MS:  $m/z = 218$  (M<sup>+</sup>).

##### **4-[2-(Phenyl)ethyl]cyclohex-1-ene (4d).**

<sup>1</sup>H NMR (400 MHz, C<sub>6</sub>D<sub>6</sub>, δ): 7.49 (m, 2H), 7.17 (m, 3H), 5.65 (m, 2H), 4.46 (t, 2H,  $J_{\text{HH}} = 3.56$  Hz, SiH<sub>2</sub>), 2.10-1.86 (m, 3H), 1.68-1.25 (m, 5H), 1.08 (m, 1H), 0.80 (m, 2H). GC-MS:  $m/z = 216$  (M<sup>+</sup>).

##### **2,2-Dimethyl-4-(phenyl)butane (4e).**

<sup>1</sup>H NMR (400 MHz, C<sub>6</sub>D<sub>6</sub>, δ): 7.50 (m, 2H), 7.16 (m, 3H), 5.65 (m, 2H), 4.48 (t, 2H,  $J_{\text{HH}} = 3.62$  Hz, SiH<sub>2</sub>), 1.29 (m, 2H), 0.79 (s, 9H), 0.76 (m, 2H). GC-MS:  $m/z = 192$  (M<sup>+</sup>).

**1-Phenyl-1-(phenylsilyl)ethane (4i).**

$^1\text{H}$  NMR (200MHz,  $\text{C}_6\text{D}_6$ ,  $\delta$ ): 7.54-6.94 (m, 10H), 4.43 (d, 2H,  $J_{\text{HH}} = 3.15$  Hz,  $\text{SiH}_2$ ), 2.44 (m, 1H), 1.34 (d, 3H,  $J_{\text{HH}} = 7.51$  Hz,  $\text{CH}_3$ ). GC-MS:  $m/z = 212$  ( $\text{M}^+$ ). Retention time: 18.8 min.

**1-Phenyl-2-(phenylsilyl)ethane (5i).**

$^1\text{H}$  NMR (200MHz,  $\text{C}_6\text{D}_6$ ,  $\delta$ ): 7.54-6.94 (m, 10H), 4.40 (t, 2H,  $J_{\text{HH}} = 3.62$  Hz,  $\text{SiH}_2$ ), 2.63 (m, 2H), 1.13 (m, 2H). GC-MS:  $m/z = 212$  ( $\text{M}^+$ ). Retention time: 18.36 min.