Supporting Information

for

Isospecific Polymerization of 1-Hexene by $C_1$-Symmetric Half-metalloocene Dimethyl Complexes of Group 4 Metals with Bidentate $N$-Substituted Iminomethylpyrrolyl Ligands

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1. **¹H and ¹³C NMR Spectra of Hafnium Complexes**

1-1. NMR Spectra of Cp*HfMe₂[Bn-pyr] (4e).

**Figure S1.** ¹H NMR spectra (300 MHz, C₆D₆, 35 °C) for complex 4e.

**Figure S2.** ¹³C NMR spectra (75 MHz, C₆D₆, 35 °C) for complex 4e.

Figure S3. $^1$H NMR spectra (300 MHz, C₆D₅Br, 35 °C) for complex 5a.

Figure S4. $^{19}$F NMR spectra (282 MHz, C₆D₅Br, 35 °C) for complex 5a.