

GCOSY (dichloromethane- d_2): δ 7.22 / 7.12 (4-H, 7-H / 5-H, 6-H), 7.12 / 7.22 (5-H, 6-H / 4-H, 7-H), 7.05 / 6.80 (3-H_{thienyl} / 4-H_{thienyl}), 6.80 / 7.05 / 2.58 (4-H_{thienyl} / 3-H_{thienyl} / $\underline{\text{CH}_3}$), 2.58 / 6.80 ($\underline{\text{CH}_3}$ / 4-H_{thienyl}).

GHSQC (dichloromethane- d_2): δ 127.1 / 7.12 (C-5, C-6 / 5-H, 6-H), 126.9 / 7.05 (C-3_{thienyl} / 3-H_{thienyl}), 126.8 / 6.80 (C-4_{thienyl} / 4-H_{thienyl}), 125.5 / 7.22 (C-4, C-7 / 4-H, 7-H), 103.6 / 6.60 (C-1, C-3 / 1-H, 3-H), 15.7 / 2.58 ($\underline{\text{CH}_3}$ / $\underline{\text{CH}_3}$).

GHMBC (dichloromethane- d_2): δ 142.3 / 7.05 / 6.80 / 2.58 (C-5_{thienyl} / 3-H_{thienyl} / 4-H_{thienyl} / $\underline{\text{CH}_3}$), 134.8 / 7.05 / 6.60 (C-2_{thienyl} / 3-H_{thienyl} / 1-H, 3-H), 128.3 / 7.05 / 6.60 (C-2 / 3-H_{thienyl} / 1-H, 3-H), 127.1 / 7.22 (C-5, C-6 / 4-H, 7-H), 126.9 / 6.80 (C-3_{thienyl} / 4-H_{thienyl}), 126.8 / 7.05 / 2.58 (C-4_{thienyl} / 3-H_{thienyl} / $\underline{\text{CH}_3}$), 125.5 / 7.12 / 6.60 (C-3a, C-7a / 4-H, 7-H / 5-H, 6-H / 1-H, 3-H), 103.6 / 6.60 (C-1, C-3 / 1-H, 3-H), 15.7 / 6.80 ($\underline{\text{CH}_3}$ / 4-H_{thienyl}).

Bis[2-(5-methyl-2-furyl)indenyl]di(neopentyl) zirconium (7b).

GCOSY (dichloromethane- d_2): δ 6.98 / 6.85 (4-H, 7-H / 5-H, 6-H), 6.85 / 6.98 (5-H, 6-H / 4-H, 7-H), 6.47 / 6.20 (3-H_{furyl} / 4-H_{furyl}), 6.20 / 6.47 (4-H_{furyl} / 3-H_{furyl}).

GHSQC (dichloromethane- d_2): δ 125.1 / 6.98 (C-4, C-7 / 4-H, 7-H), 124.3 / 6.85 (C-5, C-6 / 5-H, 6-H), 108.5 / 6.47 (C-3_{furyl} / 3-H_{furyl}), 108.2 / 6.20 (C-4_{furyl} / 4-H_{furyl}), 95.2 / 6.67 (C-1, C-3 / 1-H, 3-H), 84.8 / -1.25 ($\underline{\text{CH}_2}$ / $\underline{\text{CH}_2}$), 34.7 / 0.83 (C($\underline{\text{CH}_3}$)₃ / C($\underline{\text{CH}_3}$)₃), 13.9 / 2.47 ($\underline{\text{CH}_3}$) / $\underline{\text{CH}_3}$).

GHMBC (dichloromethane- d_2): δ 152.3 / 6.47 / 6.20 / 2.47 (C-5_{furyl} / 3-H_{furyl} / 4-H_{furyl} / $\underline{\text{CH}_3}$), 148.4 / 6.67 / 6.47 (C-2_{furyl} / 1-H, 3-H, 3-H_{furyl}), 125.4 / 6.67

(C-3a, C-7a / 1-H, 3-H), 125.1 / 6.85 (C-4, C-7 / 5-H, 6-H), 124.3 / 6.98 (C-5, C-6 / 4-H, 7-H), 119.3 / 6.67 (C-2 / 1-H, 3-H), 108.5 / 6.20 (C-3_{furyl} / 4-H_{furyl}), 108.2 / 6.47 2.47 (C-4_{furyl} / 3-H_{furyl} / $\underline{\text{CH}_3}$), 95.5 / 6.67 (C-1, C-3 / 1-H, 3-H), 84.8 / 0.83 ($\underline{\text{CH}_2}$ / $\text{C}(\underline{\text{CH}_3})_3$), 36.8 / 0.83 / -1.25 ($\underline{\text{C}}(\underline{\text{CH}_3})_3$ / $\text{C}(\underline{\text{CH}_3})_3$ / $\underline{\text{CH}_2}$), 34.7 / -1.25 ($\text{C}(\underline{\text{CH}_3})_3$ / $\underline{\text{CH}_2}$), 13.9 / 6.20 ($\underline{\text{CH}_3}$ / 4-H_{furyl}).

Bis[2-(5-methyl-2-furyl)indenyl]dibenzyl zirconium (7c).

GCOSY (dichloromethane- d_2): δ 7.20 / 6.86 / 6.73 (*m*-H / *p*-H / *o*-H), 7.05 / 6.69 (4-H, 7-H / 5-H, 6-H), 6.86 / 7.20 6.73 (*p*-H / *m*-H / *o*-H), 6.73 / 7.20 / 6.86 (*o*-H / *m*-H / *p*-H), 6.69 / 7.05 (5-H, 6-H / 4-H, 7-H), 6.45 / 6.24 (3-H_{furyl} / 4-H_{furyl}), 6.24 / 6.45 / 2.55 (4-H_{furyl} / 3-H_{furyl} / $\underline{\text{CH}_3}$), 2.55 / 6.24 ($\underline{\text{CH}_3}$ / 4-H_{furyl}).

GHSQC (dichloromethane- d_2): δ 128.2 / 7.20 (*m*-C / *m*-H), 126.1 / 6.73 (*o*-C / *o*-H), 125.9 / 7.05 (C-4, C-7 / 4-H, 7-H), 124.7 / 6.69 (C-5, C-6 / 5-H, 6-H), 121.3 / 6.86 (*p*-C / *p*-H), 108.9 / 6.45 (C-3_{furyl} / 3-H_{furyl}), 108.5 / 6.24 (C-4_{furyl} / 4-H_{furyl}), 66.9 / 0.14 ($\underline{\text{CH}_2}$ / $\underline{\text{CH}_2}$), 13.9 / 2.55 ($\underline{\text{CH}_3}$ / $\underline{\text{CH}_3}$).

GHMBC (dichloromethane- d_2): δ 153.6 / 7.20 (*ipso*-C / *m*-C), 152.9 / 6.45 / 6.24 / 2.55 (C-5_{furyl} / 3-H_{furyl} / 4-H_{furyl} / $\underline{\text{CH}_3}$), 147.7 / 6.45 / 6.05 (C-2_{furyl} / 3-H_{furyl} / 1-H, 3-H), 128.2 / 6.86 / 6.73 (*m*-C / *p*-H / *o*-H), 126.1 / 7.20 / 6.86 (*o*-C / *m*-H / *p*-H), 125.9 / 6.69 / 6.05 (C-4, C-7 / 5-H, 6-H / 1-H, 3-H), 125.4 / 6.05 (C-3a, C-7a / 1-H, 3-H), 124.7 / 7.05 (C-5, C-6 / 4-H, 7-H), 121.3 / 6.73 (*p*-C / *o*-H), 121.2 / 7.05 / 6.05 (C-2 / 4-H, 7-H / 1-H, 3-H), 108.9 / 6.24 (C-3_{furyl} / 4-H_{furyl}), 108.5 / 6.45 / 2.55 (C-4_{furyl} / 3-H_{furyl} / $\underline{\text{CH}_3}$), 66.9 / 6.73 ($\underline{\text{CH}_2}$ / *o*-H), 13.9 / 6.24 ($\underline{\text{CH}_3}$ / 4-H_{furyl}).

¹H-NMR (dichloromethane-*d*₂, 203 K): δ 7.17 (t, 4H, *m*-H, ³*J* = 7.8 Hz), 7.07 (t, 2H, 5-H, ³*J* = 7.8 Hz, ³*J* = 7.2 Hz), 6.89 (t, 2H, 6-H, ³*J* = 8.4 Hz, ³*J* = 7.2 Hz), 6.81 (t, 2H, *p*-H, ³*J* = 7.8 Hz), 6.77 (d, 2H, 4-H, ³*J* = 7.8 Hz), 6.65 (d, 4H, *o*-H, ³*J* = 7.8 Hz), 6.45 (br, 2H, 3-H_{furyl}), 6.25 (d, 2H, 7-H, ³*J* = 8.4 Hz), 6.21 (d, 2H, 4-H_{furyl}, ³*J* = 2.4 Hz), 5.98 (br, 2H, 1-H or 3-H), 5.95 (br, 2H, 1-H or 3-H), 2.49 (s, 6H, CH₃), 0.61 (d, 2H, CH_AH_B, ²*J* = 11.4 Hz), -0.65 (d, 2H, CH_AH_B, ²*J* = 11.4 Hz).

¹d-TOCSY (dichloromethane-*d*₂, 203 K): δ irradiated 7.17 (*m*-H), resonance 6.81 (*p*-H), 6.65 (*o*-H); irradiated 7.07 (5-H), resonance 6.89 (6-H), 6.77 (4-H), 6.25 (7-H); irradiated 6.45 (3-H_{furyl}), resonance 6.21 (4-H_{furyl}).

GCOSY (dichloromethane-*d*₂, 203 K): δ 7.17 / 6.81 / 6.65 (*m*-H / *p*-H / *o*-H), 7.07 / 6.89 / 6.77 (5-H / 6-H / 4-H), 6.89 / 7.07 / 6.25 (6-H / 5-H / 7-H), 6.81 / 7.17 (*o*-H / *m*-H), 6.77 / 7.07 (4-H / 5-H), 6.65 / 7.17 (*o*-H / *m*-H), 6.45 / 6.21 (3-H_{furyl} / 4-H_{furyl}), 6.25 / 6.89 (7-H / 6-H), 6.21 / 6.45 (4-H_{furyl} / 3-H_{furyl}), 0.61 / -0.65 (CH_AH_B / CH_AH_B), -0.65 / 0.61 (CH_AH_B / CH_AH_B).

Bis[2-(5-methyl-2-thienyl)indenyl]dibenzyl zirconium (10b).

GCOSY (dichloromethane-*d*₂): δ 7.21 / 6.87 / 6.79 (*m*-H / *p*-H / *o*-H), 7.05 / 6.68 (4-H, 7-H / 5-H, 6-H), 6.99 / 6.87 (3-H_{thienyl} / 4-H_{thienyl}), 6.87 / 7.21 (*p*-H / *m*-H), 6.87 / 6.99 / 2.63 (4-H_{thienyl} / 3-H_{thienyl} / CH₃), 6.79 / 7.21 (*o*-H / *m*-H), 6.68 / 7.05 (5-H, 6-H / 4-H, 7-H), 2.63 / 6.87 (CH₃ / 4-H_{thienyl}).

GHSQC (dichloromethane-*d*₂): δ 128.3 / 7.21 (*m*-C / *m*-H), 126.7 / 6.87 (C-4_{thienyl} / 4-H_{thienyl}), 126.4 / 6.79 (*o*-C / *o*-H), 126.0 / 7.05 (C-4, C-7 / 4-H, 7-H),

125.0 / 6.68 (C-5, C-6 / 5-H, 6-H), 124.8 / 6.99 (C-3_{thienyl} / 3-H_{thienyl}), 121.5 / 6.87 (*p*-C / *p*-H), 66.4 / 0.24 (CH₂ / CH₂), 15.7 / 2.63 (CH₃ / CH₃).

GHMBC (dichloromethane-*d*₂): δ 153.0 / 7.21 (*ipso*-C / *m*-H), 140.9 / 6.99 / 6.87 / 2.63 (C-5_{thienyl} / 3-H_{thienyl} / 4-H_{thienyl} / CH₃), 136.0 / 6.99 / 6.87 (C-2_{thienyl} / 3-H_{thienyl} / 4-H_{thienyl}), 128.3 / 6.87 / 6.79 (*m*-C / *p*-H / *o*-H), 126.7 / 6.99 / 2.63 (C-4_{thienyl} / 3-H_{thienyl} / CH₃), 126.4 / 7.21 / 6.87 / 0.24 (*o*-C / *m*-H / *p*-H / CH₂), 126.0 / 6.68 (C-4, C-7 / 5-H, 6-H), 125.9 / 7.05 (C-3a, C-7a / 4-H, 7-H), 125.5 / 7.05 / 6.99 (C-2 / 4-H, 7-H / 3-H_{thienyl}), 125.0 / 7.05 (C-5, C-6 / 4-H, 7-H), 124.8 / 6.87 (C-3_{thienyl} / 4-H_{thienyl}), 121.5 / 6.79 (*p*-C / *o*-H), 66.4 / 6.79 (CH₂ / *o*-H), 15.7 / 6.87 (CH₃ / 4-H_{thienyl}).

¹H-NMR (dichloromethane-*d*₂, 203 K): δ 7.18 (t, 4H, *m*-H, ³*J* = 7.8 Hz), 7.01 (m, 4H, 5-H, *p*-H), 6.97 (s, 2H, 3-H_{thienyl}), 6.85 (m, 4H, 4-H_{thienyl}, 6-H), 6.73 (d, 4H, *o*-H, ³*J* = 7.8 Hz), 6.58 (d, 2H, 4-H, ³*J* = 7.8 Hz), 6.46 (d, 2H, 7-H, ³*J* = 6.6 Hz), 6.12 (s, 2H, 1-H or 3-H), 5.41 (s, 2H, 1-H or 3-H), 2.58 (s, 6H, CH₃), 0.42 (d, 2H, CH_AH_B, ²*J* = 11.4 Hz), -0.21 (d, 2H, CH_AH_B, ²*J* = 11.4 Hz).