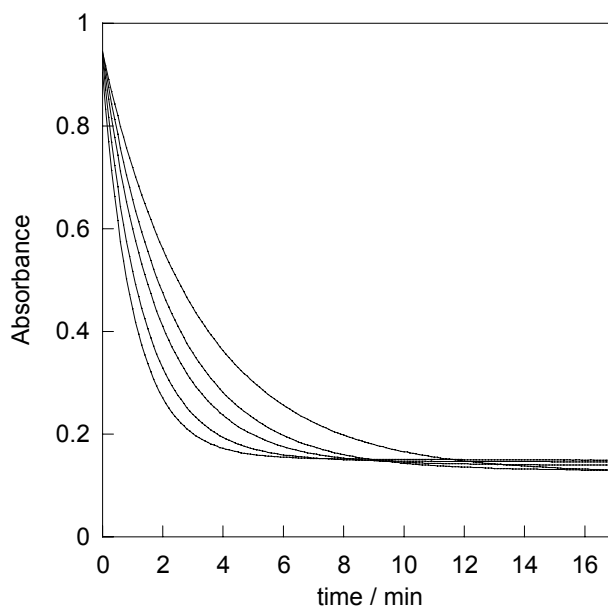


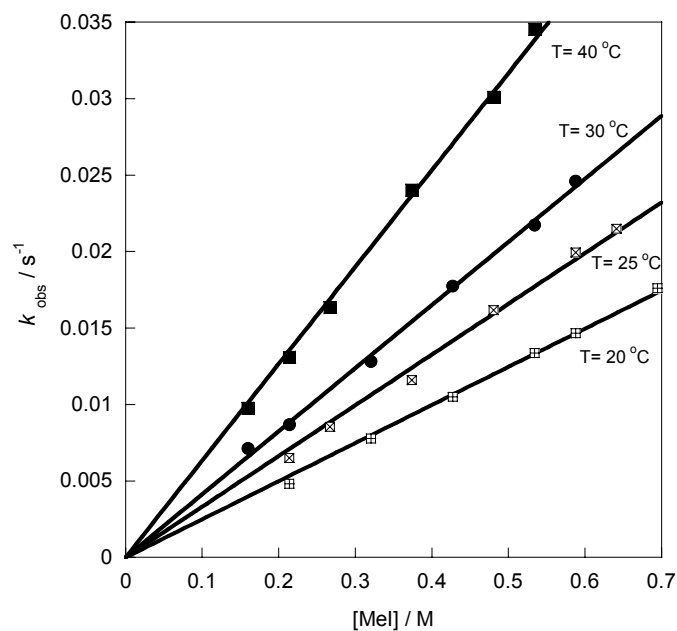
**The Supporting Information**  
**The manuscript ID NJ-ART-09-2009-000523**

**Table S1.** DFT calculated bond angles (deg) of compounds **1-2** based on the optimized structures

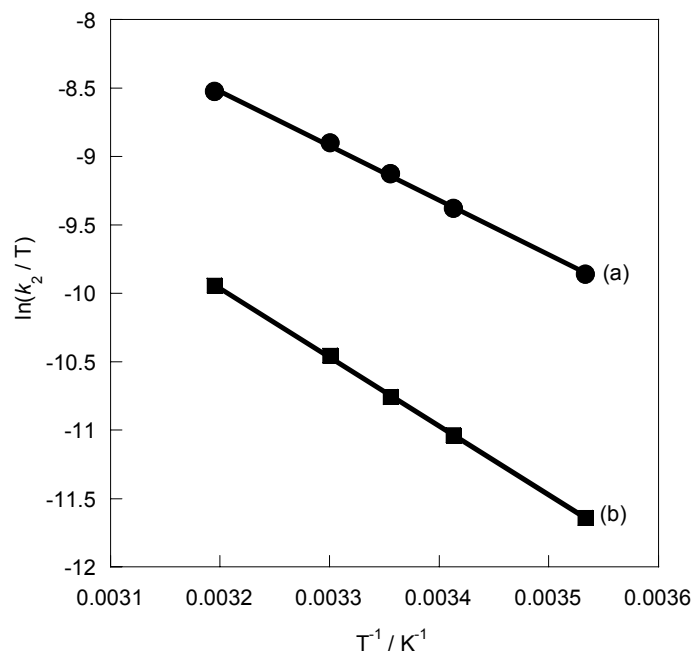
|             | <b>1a</b> | <b>1b</b> | <b>2a</b> | <b>2b</b> |
|-------------|-----------|-----------|-----------|-----------|
| N1-Pt1-P1   | 81.1      | 81.0      | 78.7      | 78.4      |
| N1-Pt1-C18  | 179.5     | 177.3     | 177.1     | 174.3     |
| N1-Pt1-C19  | 93.9      | 94.6      | 95.3      | 96.8      |
| N1-Pt1-C20  | ---       | ---       | 94.2      | 88.0      |
| P1-Pt1-C18  | 98.5      | 96.3      | 99.4      | 95.9      |
| P1-Pt1-C19  | 175.0     | 174.6     | 173.2     | 175.3     |
| P1-Pt1-C20  | ---       | ---       | 90.7      | 92.5      |
| C18-Pt1-C19 | 86.5      | 88.1      | 86.8      | 88.8      |
| C18-Pt1-C20 | ---       | ---       | 87.9      | 92.2      |
| C19-Pt1-C20 | ---       | ---       | 86.8      | 87.5      |
| N1-Pt1-I1   | ---       | ---       | 85.7      | 84.9      |
| P1-Pt1-I1   | ---       | ---       | 92.1      | 85.2      |
| C18-Pt1-I1  | ---       | ---       | 92.3      | 94.7      |
| C19-Pt1-I1  | ---       | ---       | 90.4      | 94.1      |
| C20-Pt1-I1  | ---       | ---       | 177.1     | 172.9     |



**Fig. S1** Absorbance-time curves for the reaction of  $[\text{PtMe}_2(\text{PN})]$  with MeI (2.65-15.9 mM with  $[\text{MeI}]$  increases reading downward) in benzene at 25 °C.



**Fig. S2** Plots of first-order rate constants ( $k_{\text{obs}}/\text{s}^{-1}$ ) for the reaction of  $[\text{PtMe}_2(\text{PN})]$  with MeI in benzene at different temperatures versus concentration of MeI.



**Fig. S3** Eyring plots for the reaction of (a)  $[\text{PtMe}_2(\text{PN})] + \text{CH}_3\text{I}$  in benzene, (b)  $[\text{Pt}(p\text{-MeC}_6\text{H}_4)_2(\text{PN})] + \text{CH}_3\text{I}$  in acetone.