

## Supporting Information

The following spectra are included in this supporting information:

Figure 1:  $^1\text{H}$ -NMR spectrum of ligand **bimptz**.

Figure 2:  $^1\text{H}$ -NMR spectrum of  $[\text{Ru}_2(\text{bimptz})(\text{dmso})_2(\mu\text{-Cl})_2](\text{PF}_6)_2$  (**4**).

Figure 3:  $^{13}\text{C}$ -NMR spectrum of  $[\text{Ru}_2(\text{bimptz})(\text{dmso})_2(\mu\text{-Cl})_2](\text{PF}_6)_2$  (**4**).

Figure 4:  $^1\text{H}$ -NMR spectrum of  $[\text{Ru}(\text{Hbimptz})_2](\text{PF}_6)_4$  (**6**).

Figure 5:  $^{13}\text{C}$ -NMR spectrum of  $[\text{Ru}(\text{Hbimptz})_2](\text{PF}_6)_4$  (**6**).

Figure 6: High resolution ESI-MS spectrum of  $[\text{Co}_2(\text{bimptz})_2(\text{CH}_3\text{OH})_2(\mu\text{-Cl})_2](\text{PF}_6)_2$  (**3**).

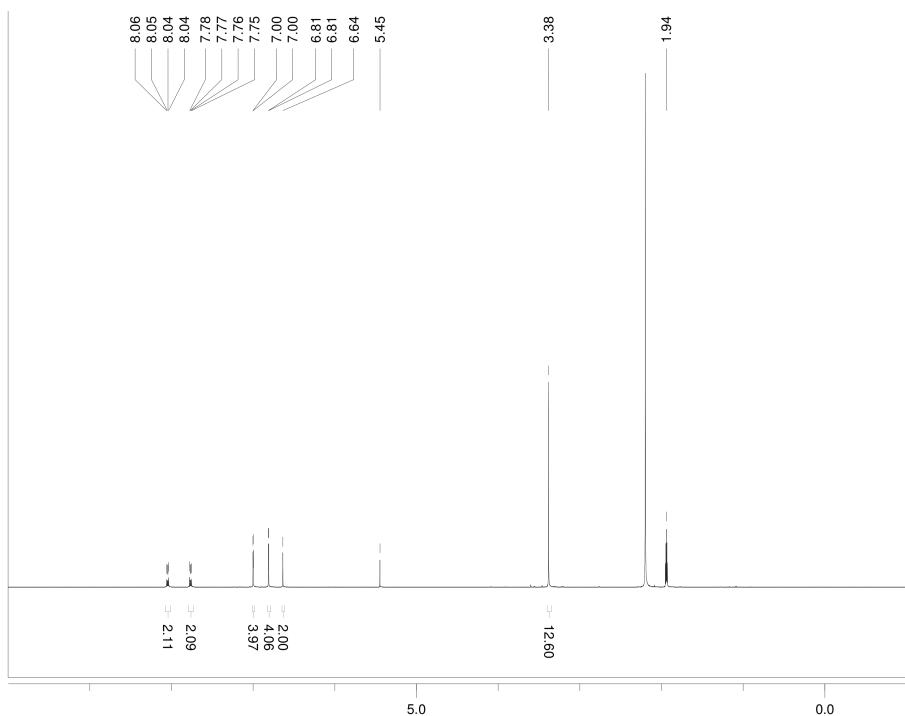
Figure 7: High resolution ESI-MS spectrum of  $[\text{Ru}_2(\text{bimptz})(\text{dmso})_2(\mu\text{-Cl})_2](\text{PF}_6)_2$  (**4**).

Figure 8: High resolution ESI-MS spectrum of  $[\text{Ru}_2(\text{bimptz})(\mu\text{-Cl})_2(\text{dmso})(\text{dms})](\text{PF}_6)_2$  (**5**).

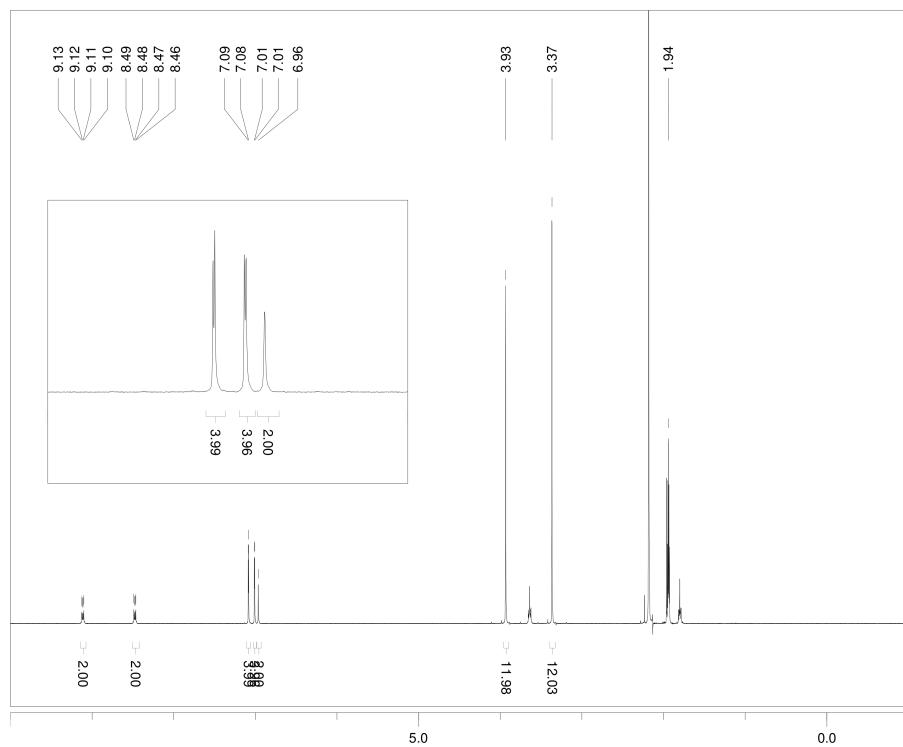
Figure 9: Low resolution ESI-MS of  $[\text{Ru}(\text{Hbimptz})_2](\text{PF}_6)_4$  (**6**)

Figure 10: High resolution ESI-MS of  $[\text{Ru}(\text{Hbimptz})_2](\text{PF}_6)_4$  (**6**)

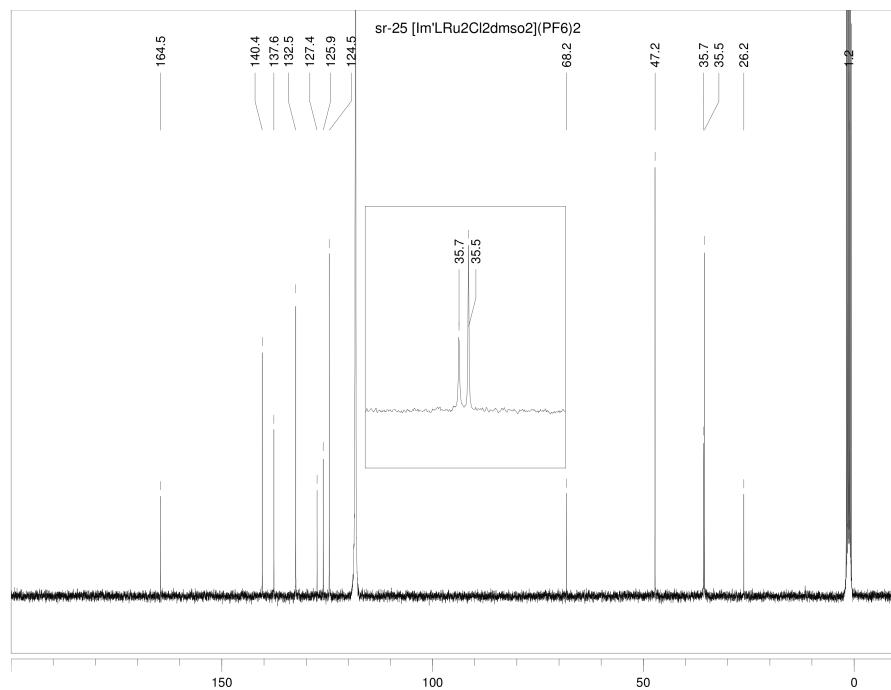
**Figure 1**  $^1\text{H}$ -NMR spectrum of ligand **bimptz**.



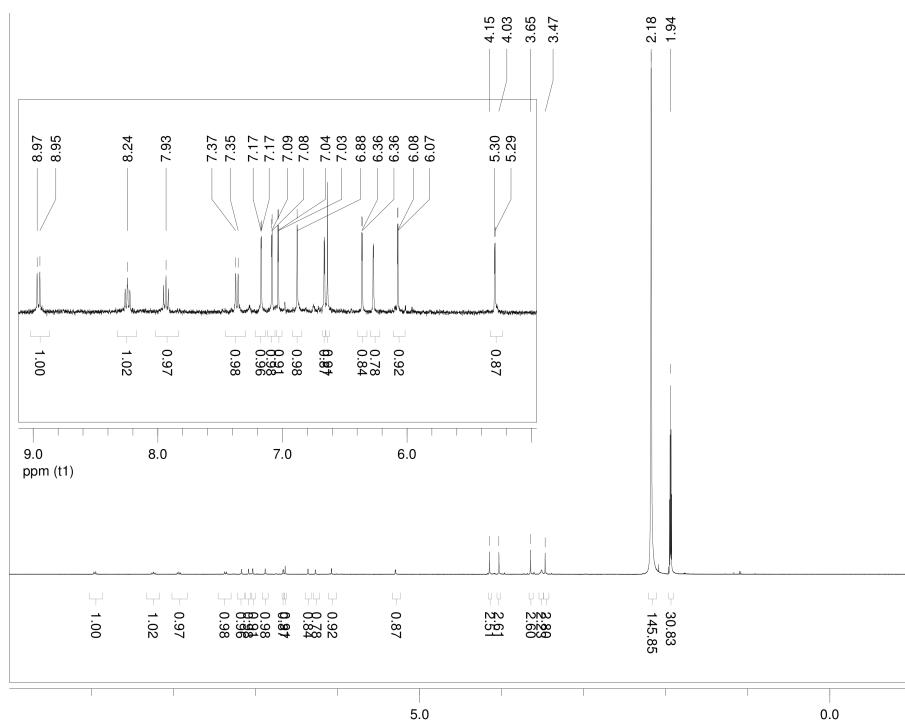
**Figure 2**  $^1\text{H}$ -NMR spectrum of  $[\text{Ru}_2(\text{bimptz})(\text{dmso})_2(\mu\text{-Cl})_2](\text{PF}_6)_2$  (**4**).



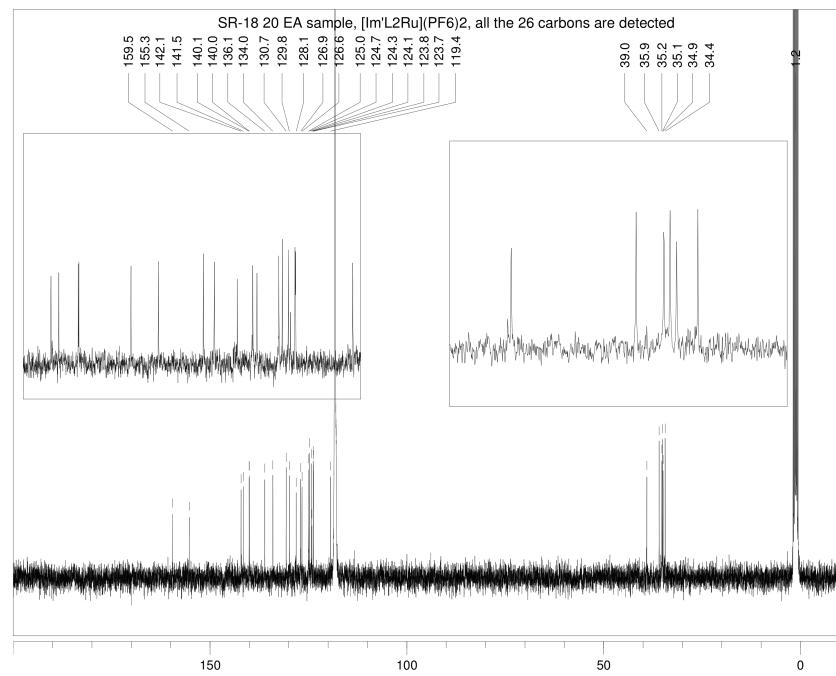
**Figure 3**  $^{13}\text{C}$ -NMR spectrum of  $[\text{Ru}_2(\text{bimptz})(\text{dmso})_2(\mu\text{-Cl})_2](\text{PF}_6)_2$  (**4**).



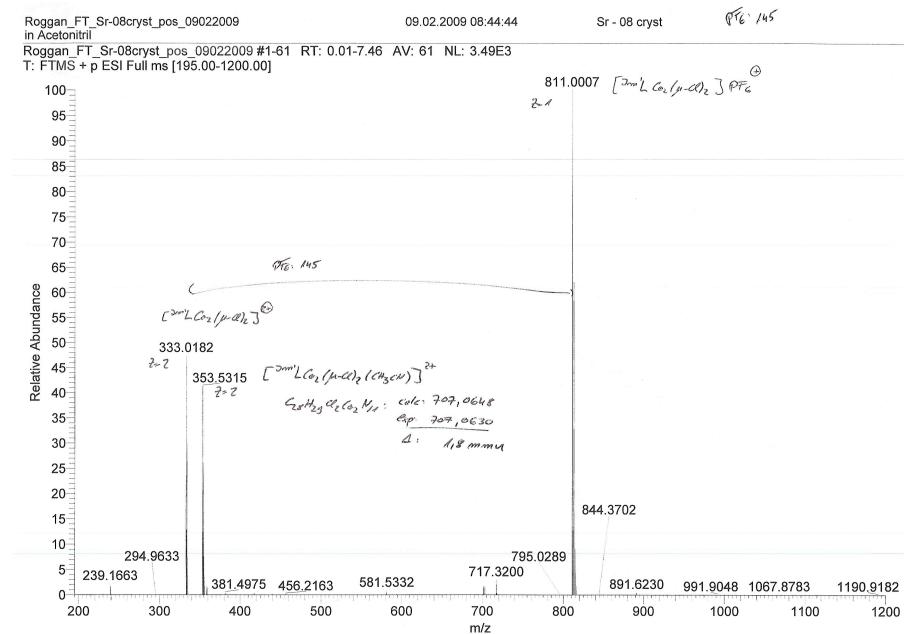
**Figure 4**  $^1\text{H}$ -NMR spectrum of  $[\text{Ru}(\text{Hbimptz})_2](\text{PF}_6)_4$  (**6**).



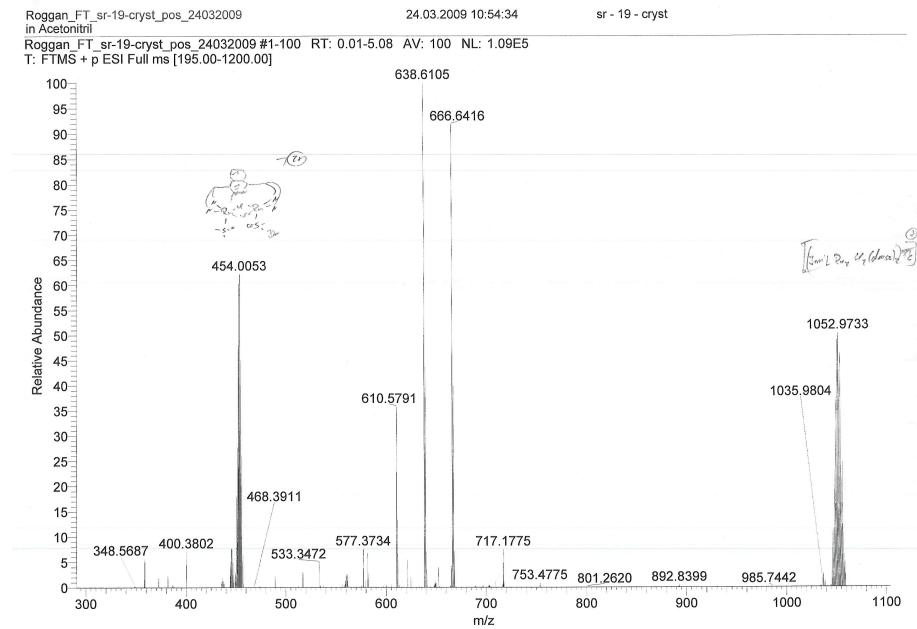
**Figure 5**  $^{13}\text{C}$ -NMR spectrum of  $[\text{Ru}(\text{Hbimptz})_2](\text{PF}_6)_4$  (**6**).



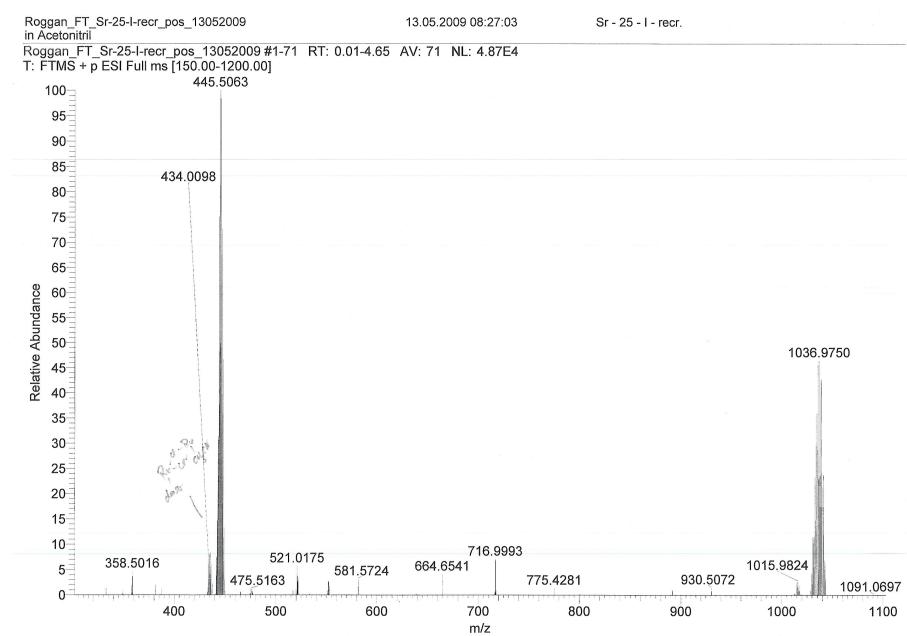
**Figure 6** High resolution ESI-MS spectrum of  $[\text{Co}_2(\text{bimptz})_2(\text{CH}_3\text{OH})_2(\mu\text{-Cl})_2](\text{PF}_6)_2$  (**3**)



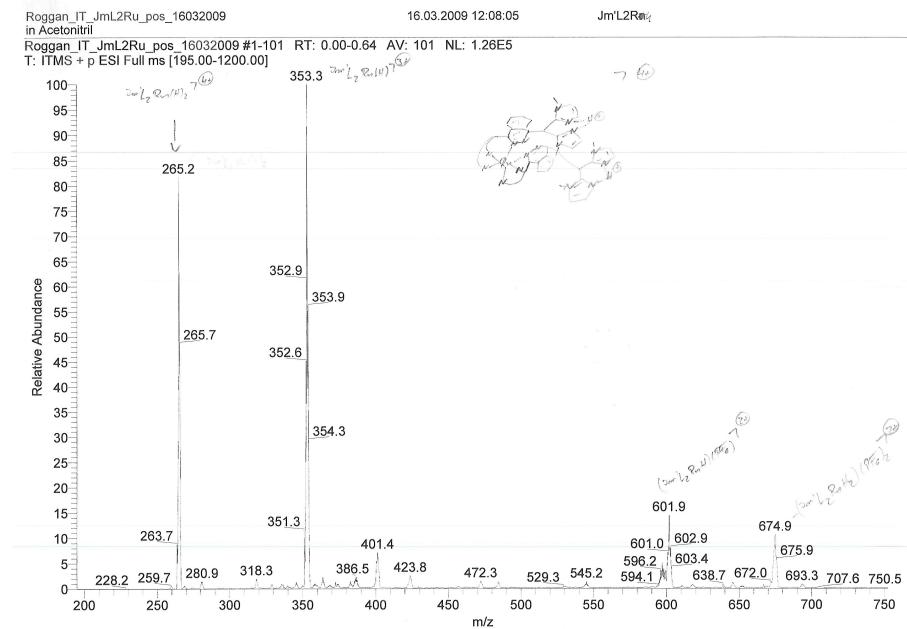
**Figure 7** High resolution ESI-MS spectrum of  $[\text{Ru}_2(\text{bimptz})(\text{dmso})_2(\mu\text{-Cl})_2](\text{PF}_6)_2$  (**4**)



**Figure 8** High resolution ESI-MS spectrum of  $[\text{Ru}_2(\text{bimptz})(\mu\text{-Cl})_2(\text{dmso})(\text{dms})](\text{PF}_6)_2$  (**5**)



**Figure 9** Low resolution ESI-MS of  $[\text{Ru}(\text{Hbimptz})_2](\text{PF}_6)_4$  (**6**)



**Figure 10** High resolution ESI-MS of  $[\text{Ru}(\text{Hbimptz})_2](\text{PF}_6)_4$  (**6**)

