# Supplementary Materials: Effects of Introducing Methoxy Groups into the Ancillary Ligands in Bis(diimine) Copper(I) Dyes for Dye-Sensitized Solar Cells

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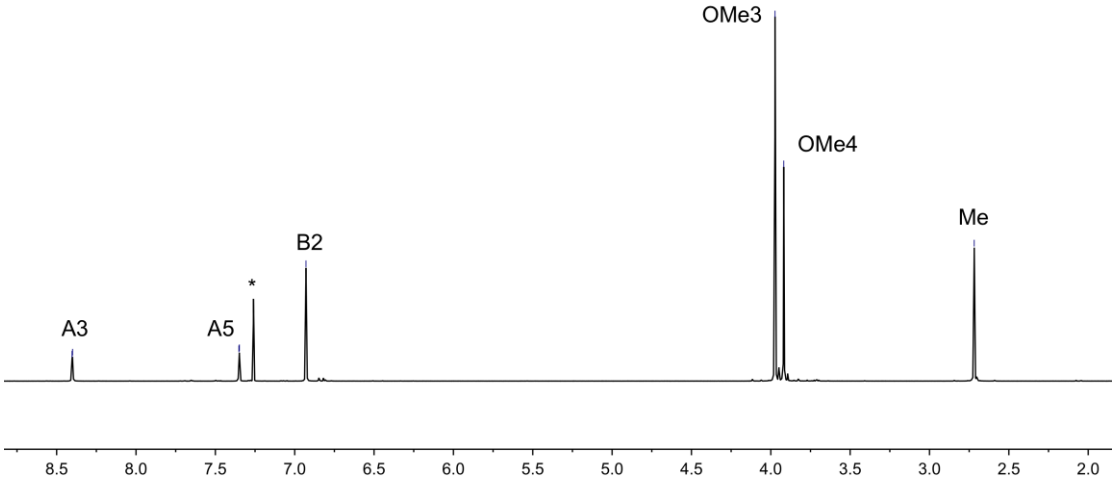



**Figure S1.** 500 MHz $^{1}$H NMR spectrum of **4** ($CDCl_3$). * = residual $CHCl_3$. Chemical shifts in δ/ppm. See Scheme 1 for labelling.

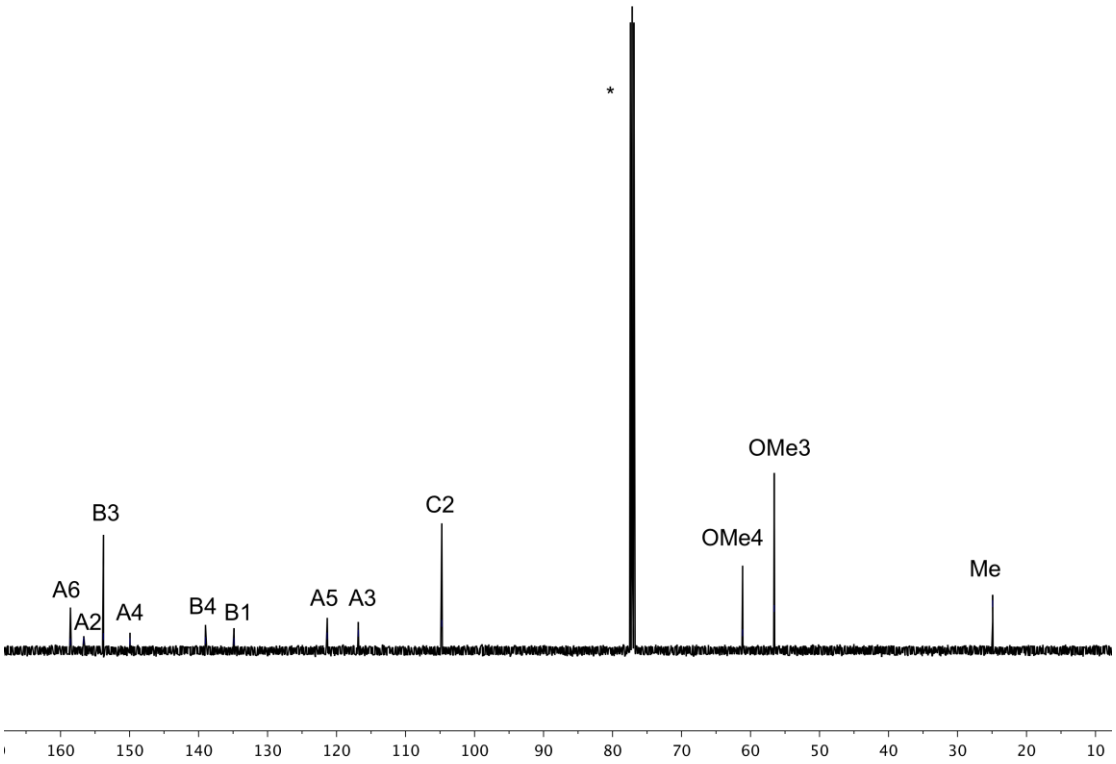



**Figure S2.** 126 MHz $^{13}$C NMR spectrum of **4** ($CDCl_3$*). Chemical shifts in δ/ppm. See Scheme 1 for labelling.

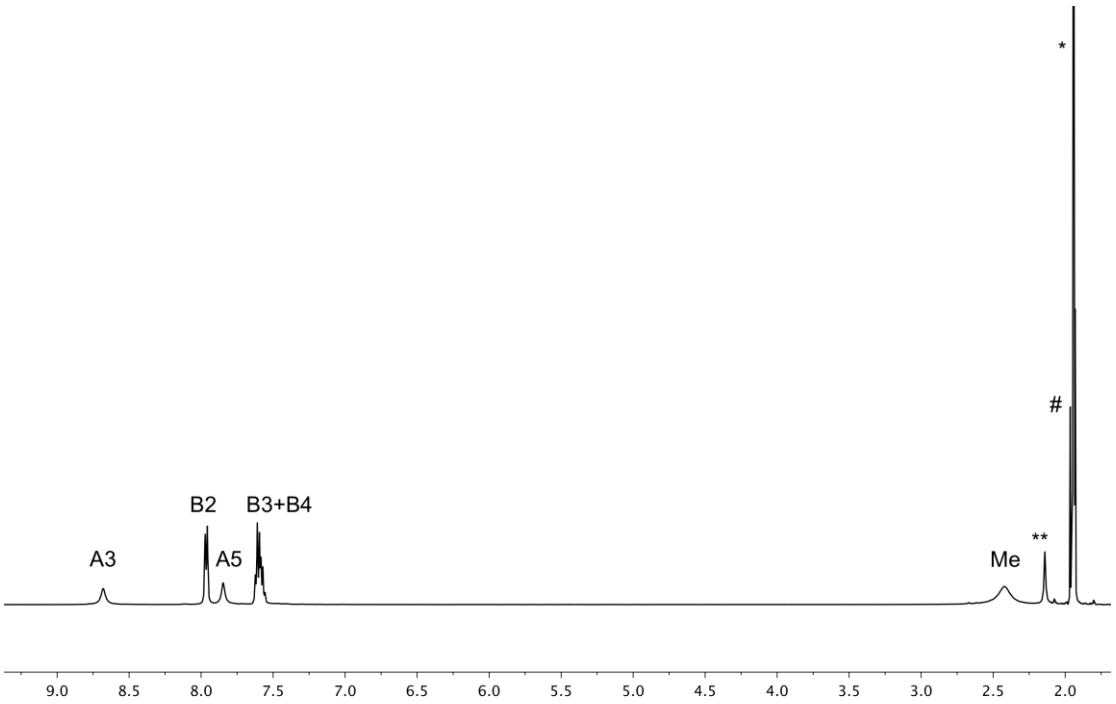



**Figure S3.** 500 MHz $^{1}$H NMR spectrum of [Cu(**1**)$_2$][PF$_6$] (CD$_3$CN). * = residual CHD$_2$CN; # = CH$_3$CN; ** = H$_2$O). Chemical shifts in δ/ppm. See Scheme 1 for labelling.

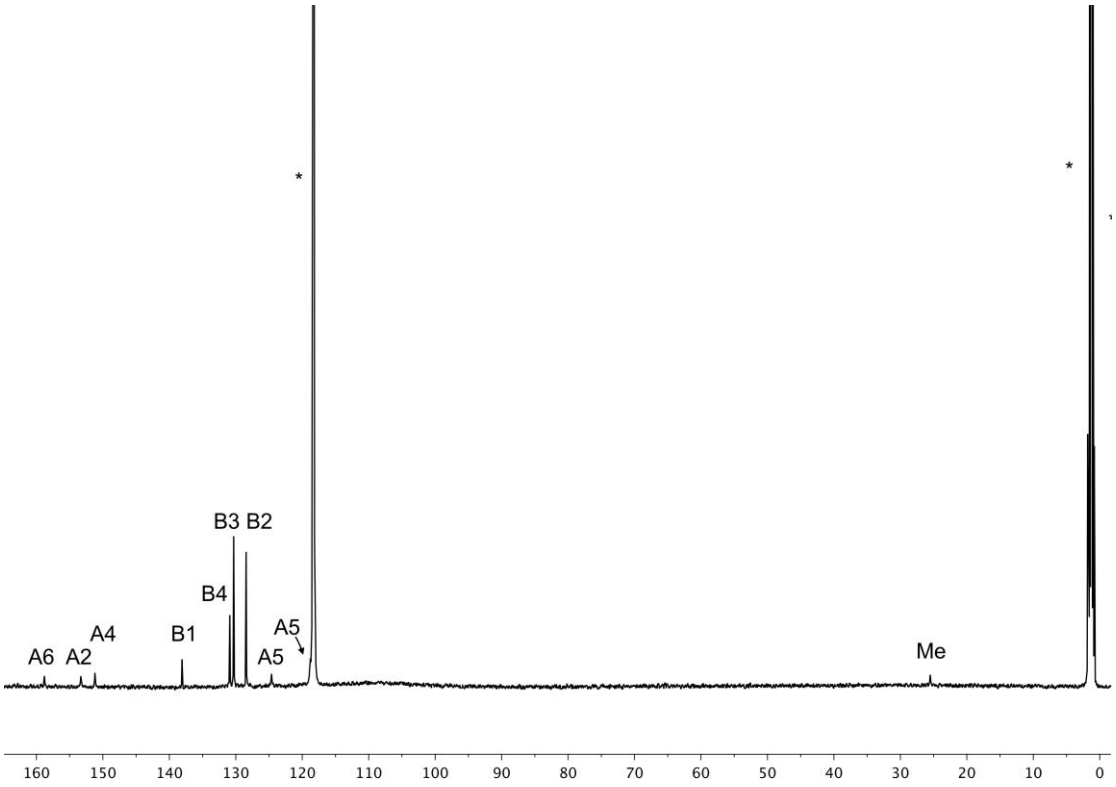



**Figure S4.** 126 MHz $^{13}$C NMR spectrum of [Cu(**1**)$_2$][PF$_6$] (CD$_3$CN*). Chemical shifts in δ/ppm. See Scheme 1 for labelling.

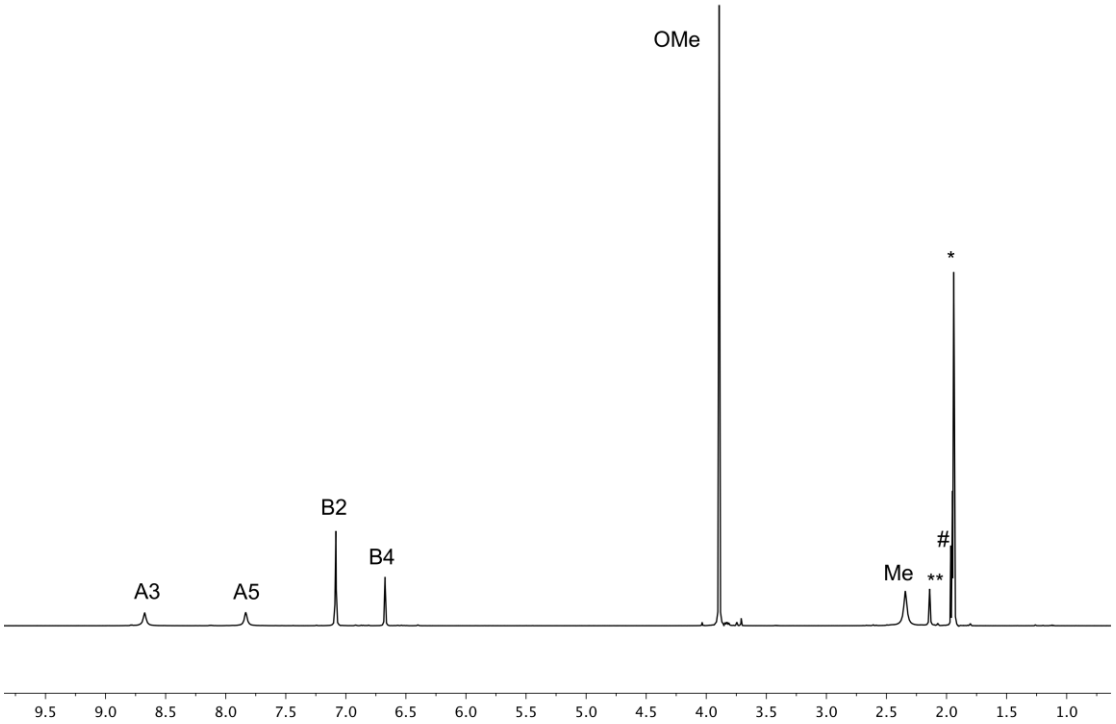



**Figure S5.** 500 MHz $^{1}$H NMR spectrum of [Cu(**3**)$_2$][PF$_6$] (CD$_3$CN). * = residual CHD$_2$CN; # = CH$_3$CN; ** = H$_2$O). Chemical shifts in δ/ppm. See Scheme 1 for labelling.

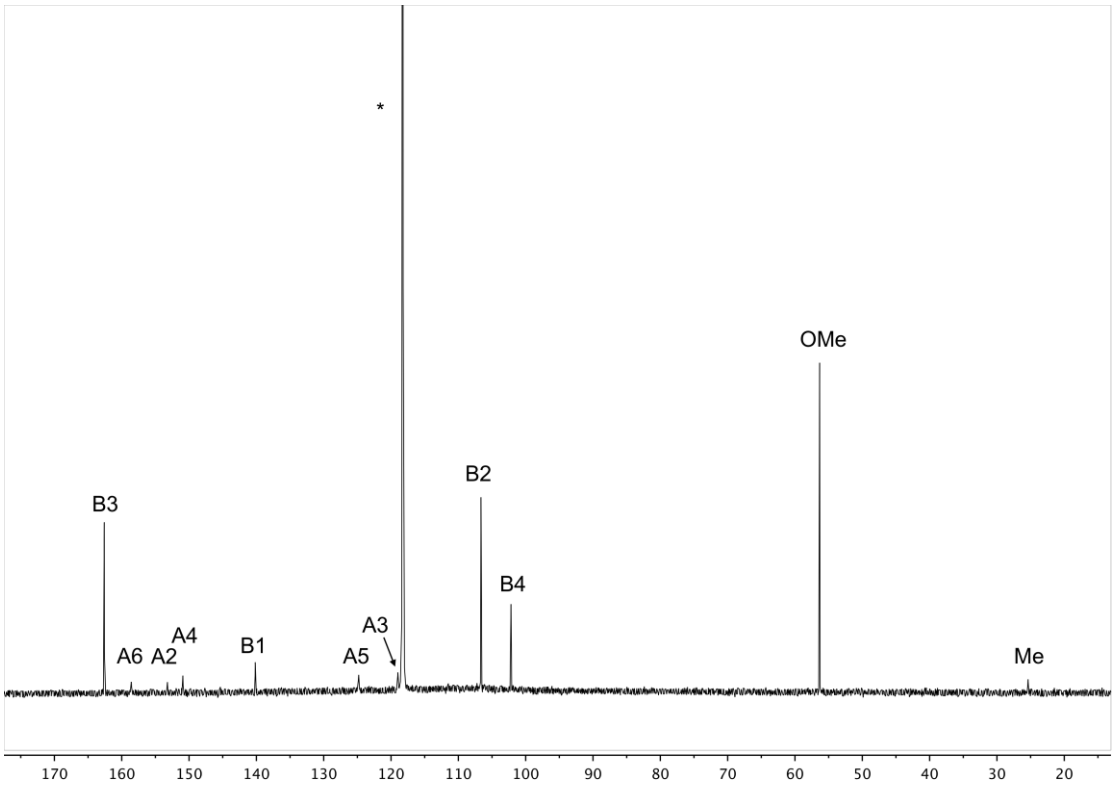



**Figure S6.** 126 MHz $^{13}$C NMR spectrum of [Cu(**3**)$_2$][PF$_6$] (CD$_3$CN*). Chemical shifts in δ/ppm. See Scheme 1 for labelling.

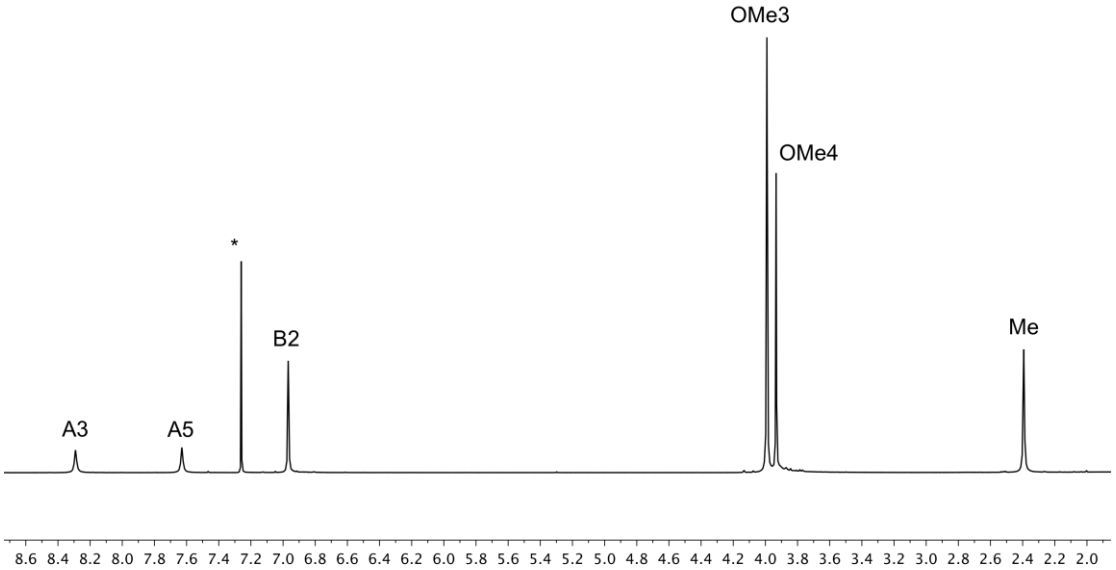



**Figure S7.** 500 MHz $^{1}$H NMR spectrum of [Cu(**4**)$_2$][PF$_6$] (CDCl$_3$). * = residual CHCl$_3$. Chemical shifts in δ/ppm. See Scheme 1 for labelling.

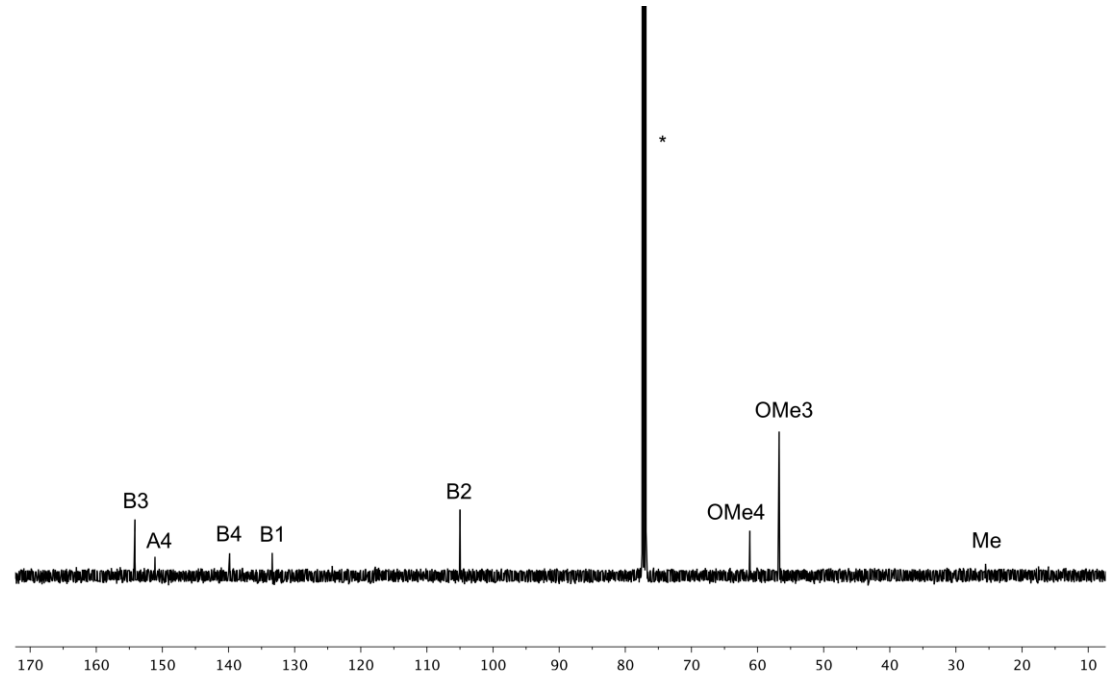
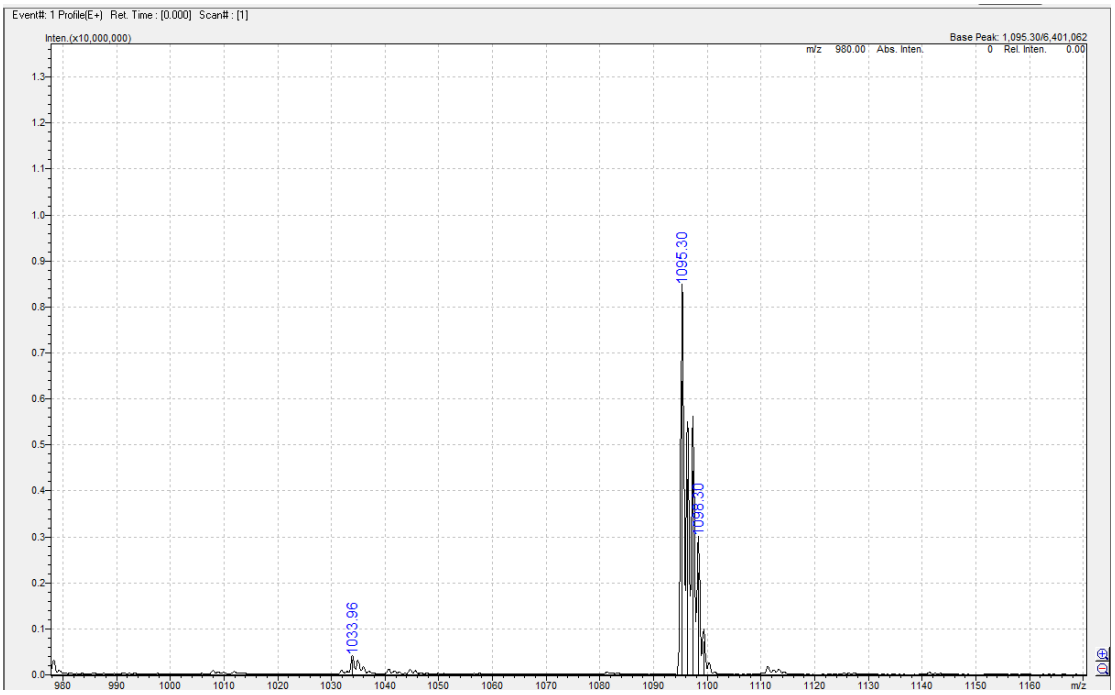
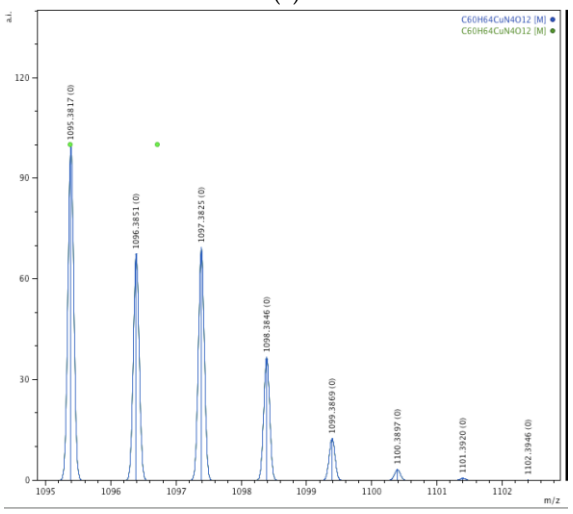



**Figure S8.** 126 MHz $^{13}$C NMR spectrum of [Cu(**4**)$_2$][PF$_6$] (CDCl$_3$*). Chemical shifts in δ/ppm. See Scheme 1 for labelling. See also Figure S9.




(**a**)




(**b**)

**Figure S9**. (**a**) ESI mass spectrum of [Cu(**4**)$_2$][$PF_6$]; the base peak arises from the [M − $PF_6$]$^+$ ion. (**b**) Calculated isotope pattern for the base peak.