

Exopolyhedral Ligand Orientation controls Diastereoisomer in Mixed-metal Bis(carboranes)

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SUPPORTING MATERIALS

^1H , $^{11}\text{B}\{^1\text{H}\}$ and $^{31}\text{P}\{^1\text{H}\}$ NMR spectra of all new products.

% H_2O

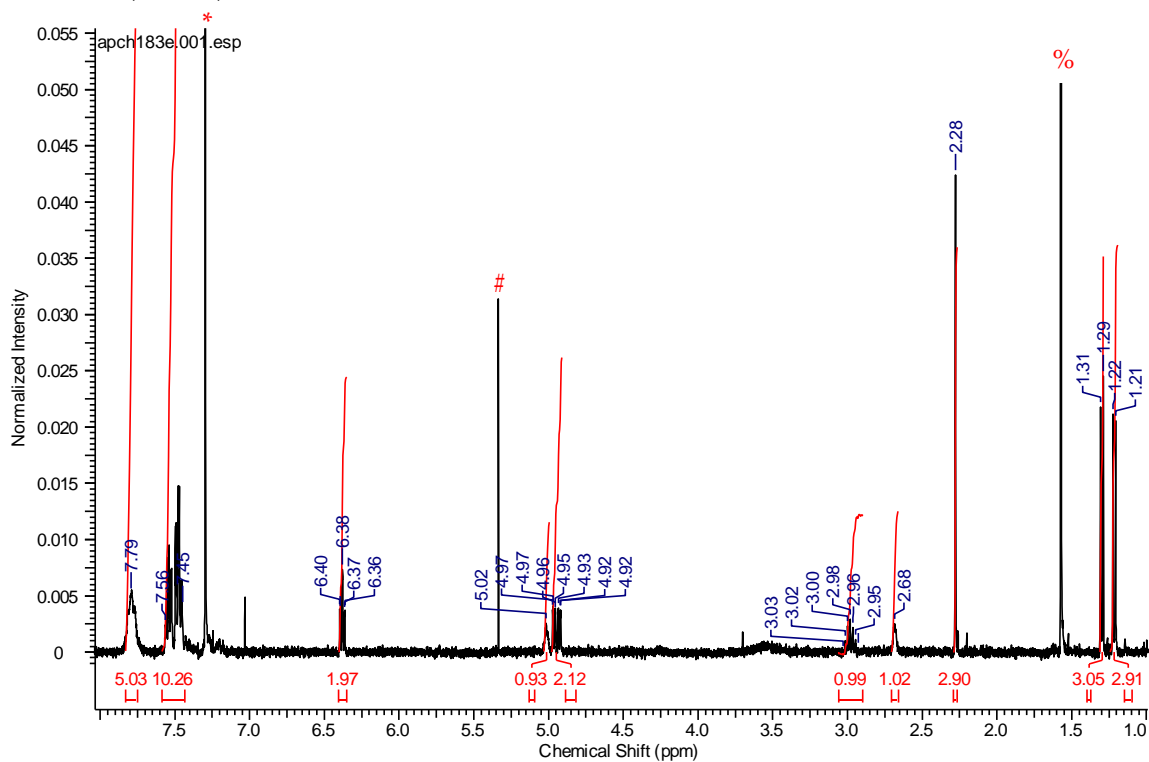
@ $(\text{CH}_3)_2\text{CO}$

CH_2Cl_2

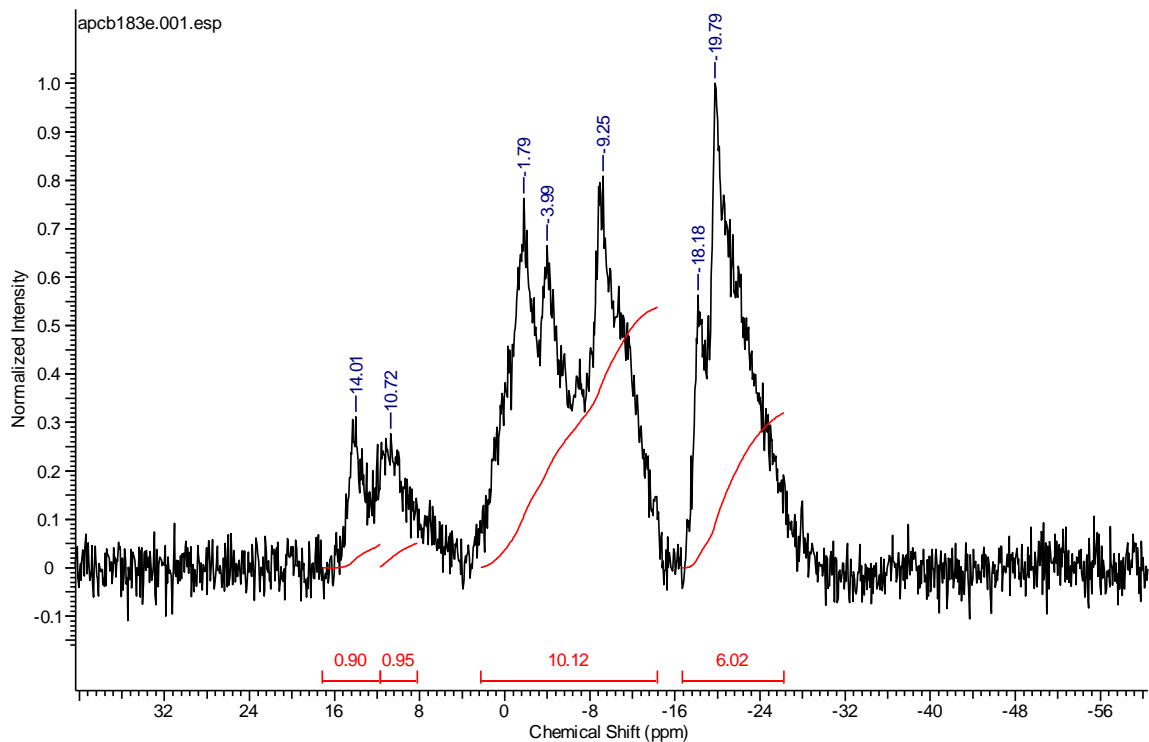
* Protio CDCl_3

Compound 1: $[\mu_{7,8}-(1',3'-3'-Cl-3'-PPh_3-closo-3',1',2'-RhC_2B_9H_{10})-2-(p\text{-cymene})-closo-2,1,8-RuC_2B_9H_{10}]$

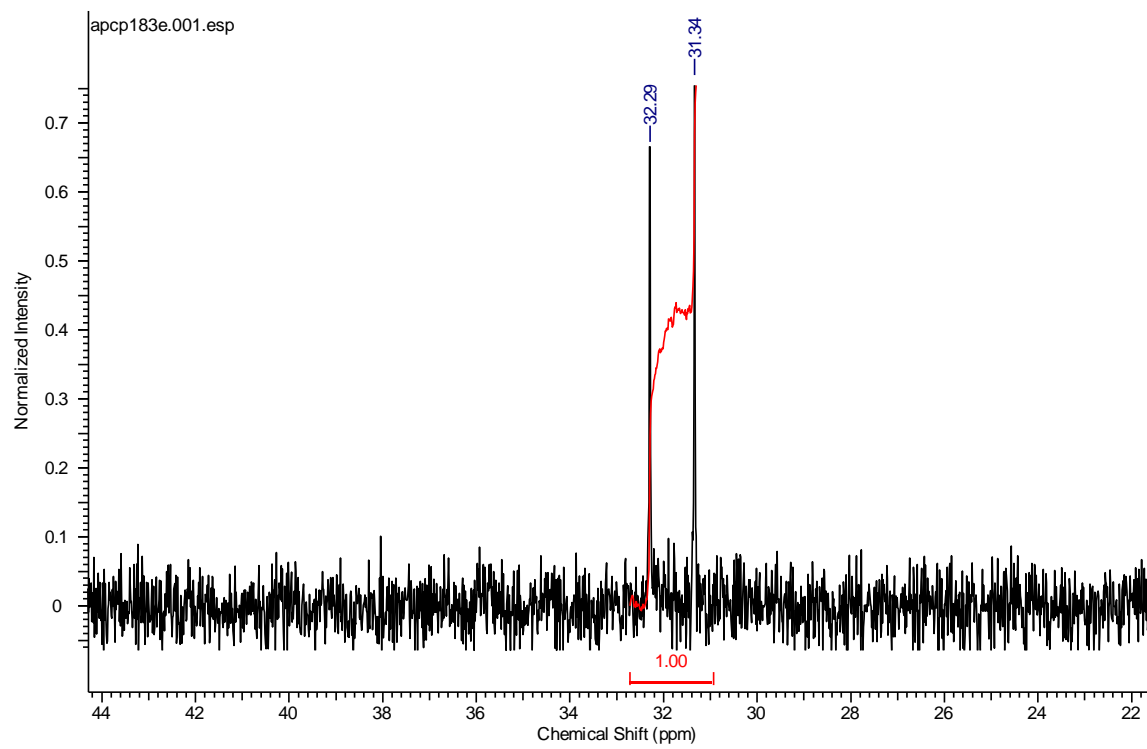
1H NMR ($CDCl_3$):



$^{11}B\{^1H\}$ NMR ($CDCl_3$):

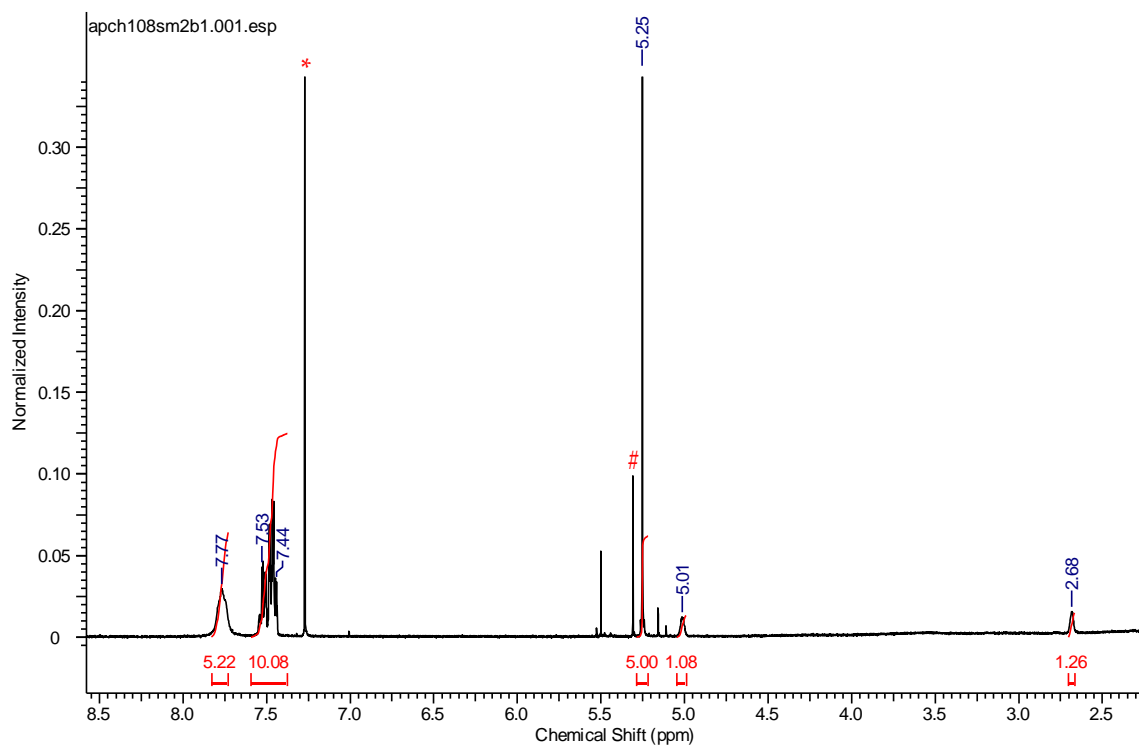


$^{31}\text{P}\{^1\text{H}\}$ NMR (CDCl_3):

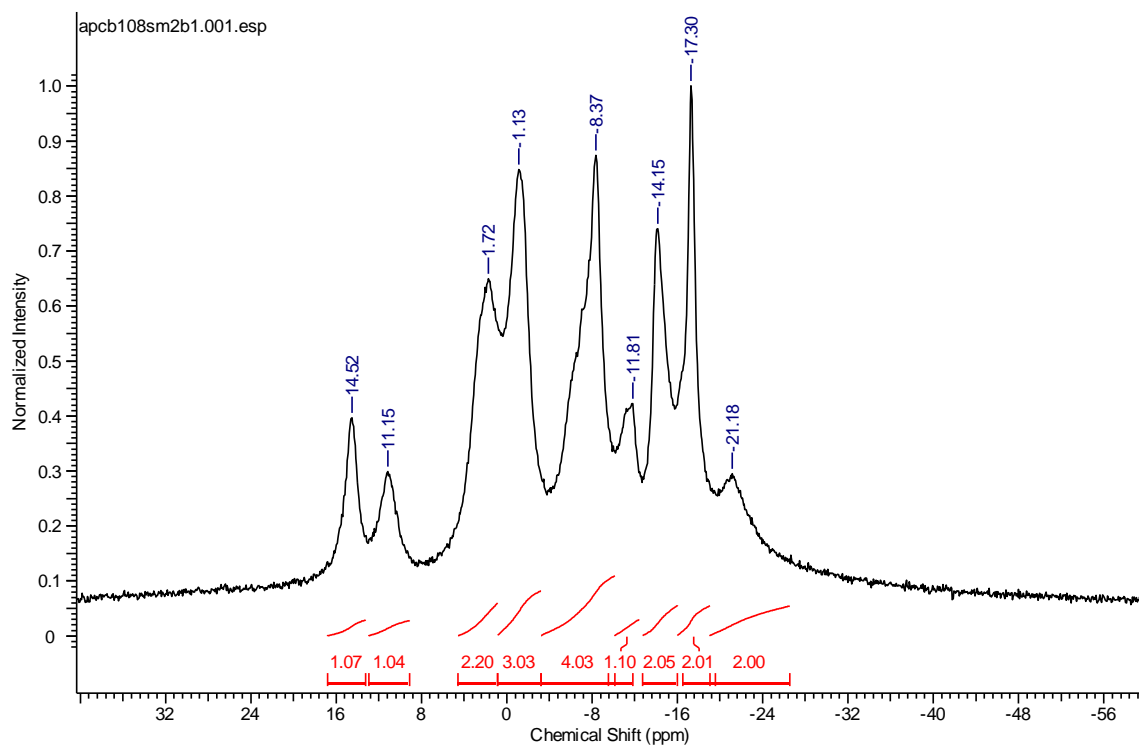


Compound 2: $[\mu_{7,8}-(1',3'-3'-Cl-3'-PPh_3-closo-3',1',2'-RhC_2B_9H_{10})-2-Cp-closo-2,1,8-CoC_2B_9H_{10}]$

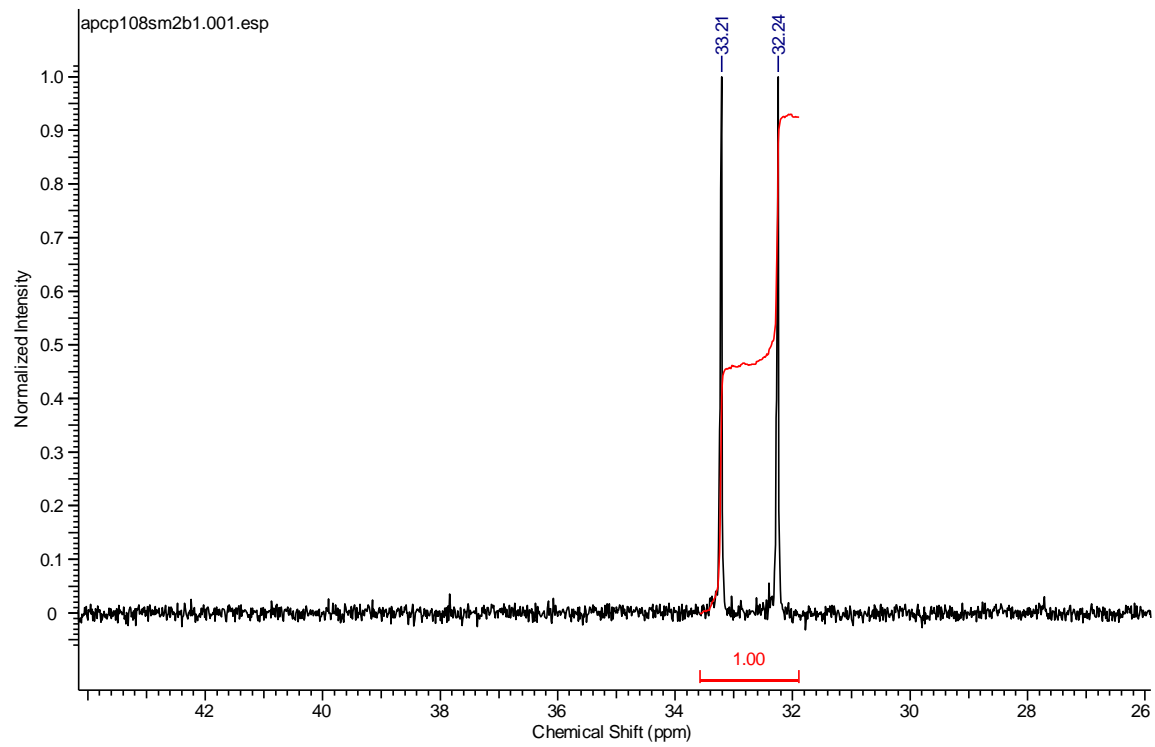
1H NMR ($CDCl_3$):



$^{11}B\{^1H\}$ NMR ($CDCl_3$):

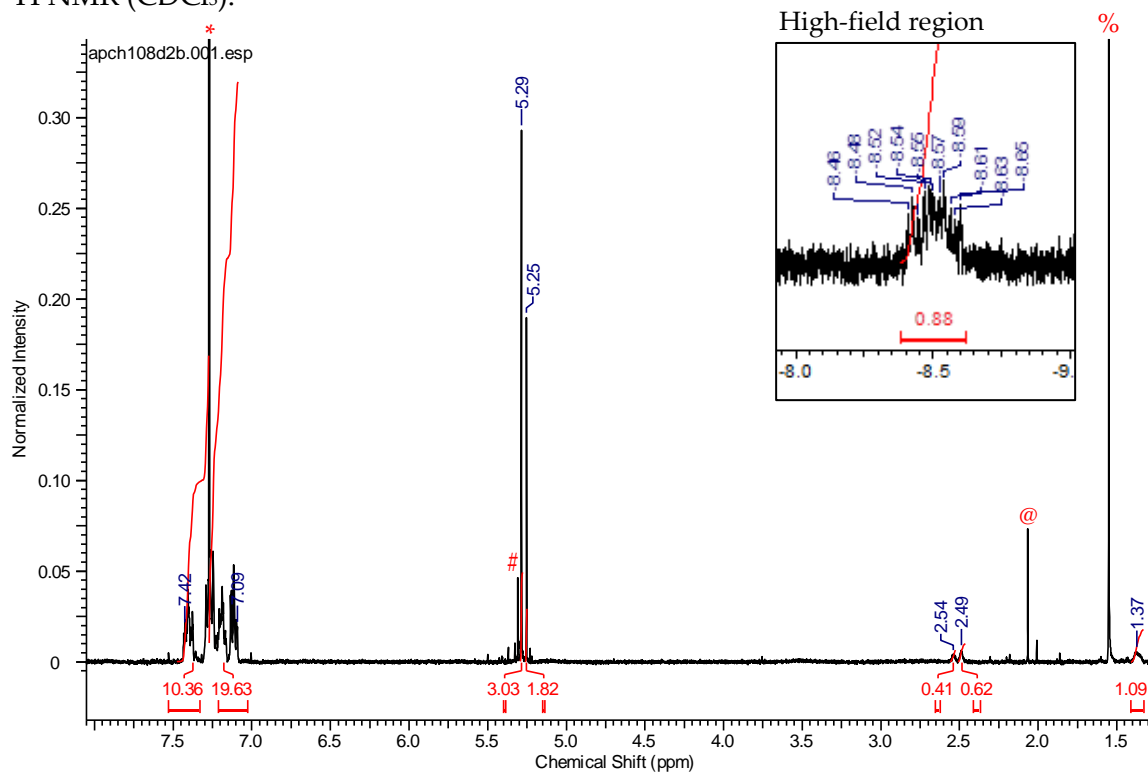


$^{31}\text{P}\{^1\text{H}\}$ NMR (CDCl_3):

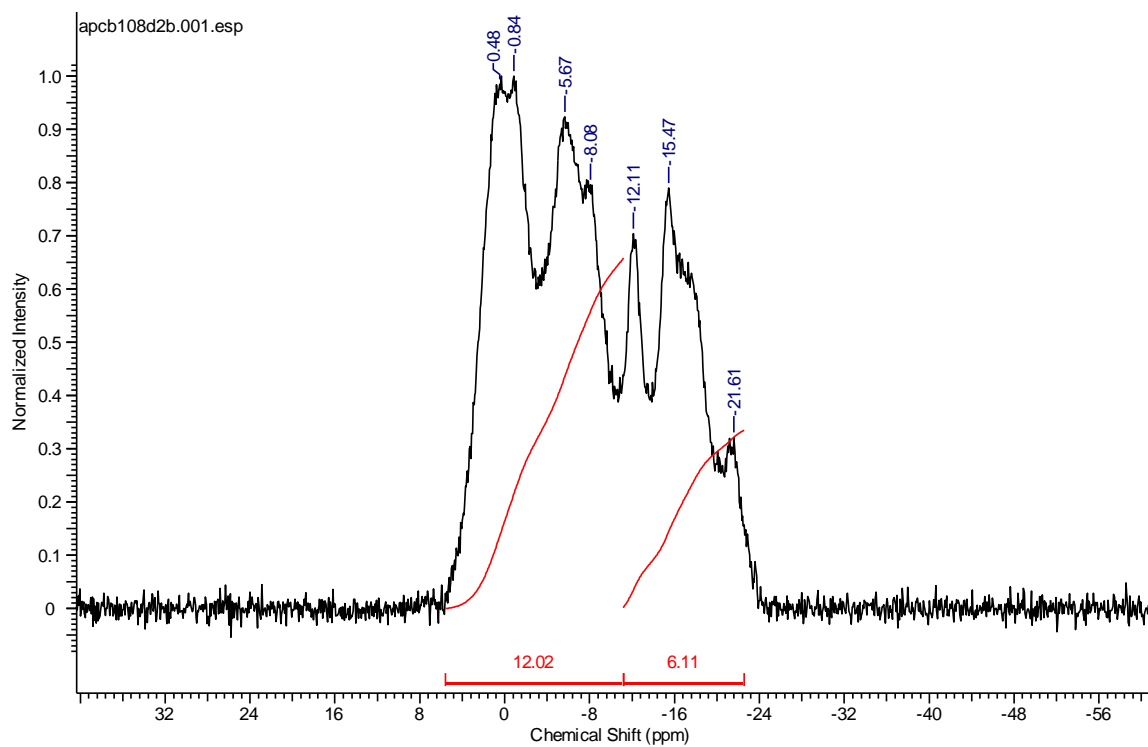


Compound 3: [8-{8'-2'-H-2',2'-(PPh₃)₂-closo-2',1',8'-RhC₂B₉H₁₀}-2-Cp-closo-2,1,8-CoC₂B₉H₁₀]

¹H NMR (CDCl₃):



¹¹B{¹H} NMR (CDCl₃):



$^{31}\text{P}\{^1\text{H}\}$ NMR (CDCl_3):

