Supplementry information for:

Carving 1D Co^{II}-carboranylcarboxylate system by organic solvents creating stable trinuclear molecular analogous: complete structural and magnetic studies

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Figure S1. IR spectra of the compounds a) **1** and b) **2**

Figure S2. i) ^{1}H-RMN, ii) ^{1}H{^{11}B}-RMN, iii) ^{11}B-RMN, iv) ^{11}B{^{1}H}-RMN, v) ^{13}C-RMN vi) deconvulated ^{11}B-RMN spectra of compounds a) **1** and b) **2**

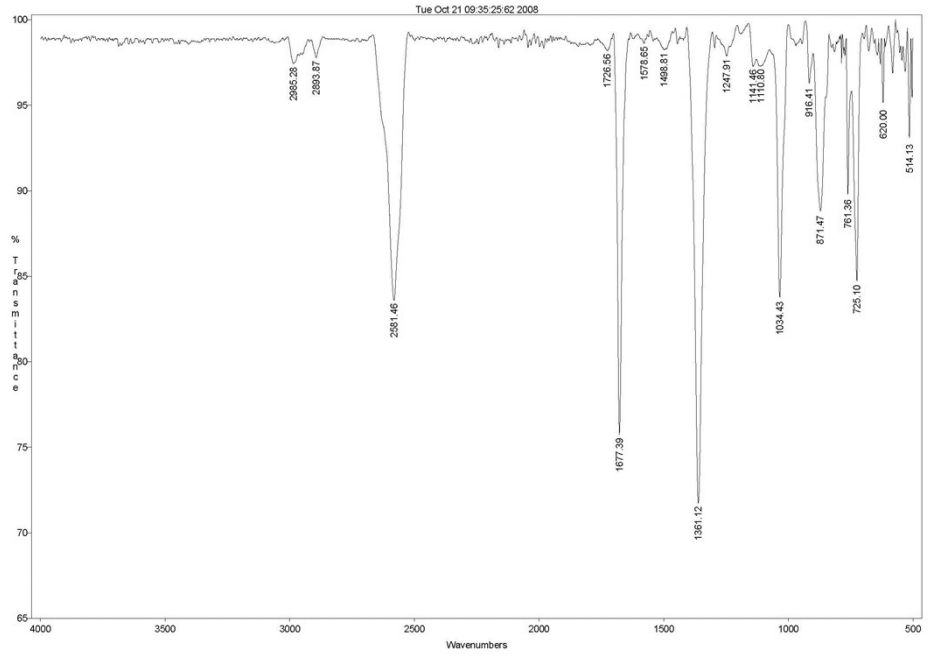
Figure S3. UV-vis spectra for compounds **1** and **2**

Figure S4. $M/N\mu_B$ vs. H data, for **1** (■) and **3** (▲), respectively.

Figure S5. $M/N\mu_B$ vs. H/T data, for **1** (left) and **3** (right), respectively. Experimental data are shown as black squares and the resulting fitting as a red line.

Figure S1. IR spectra of the compounds a) **1** and b) **2**

a)



b)

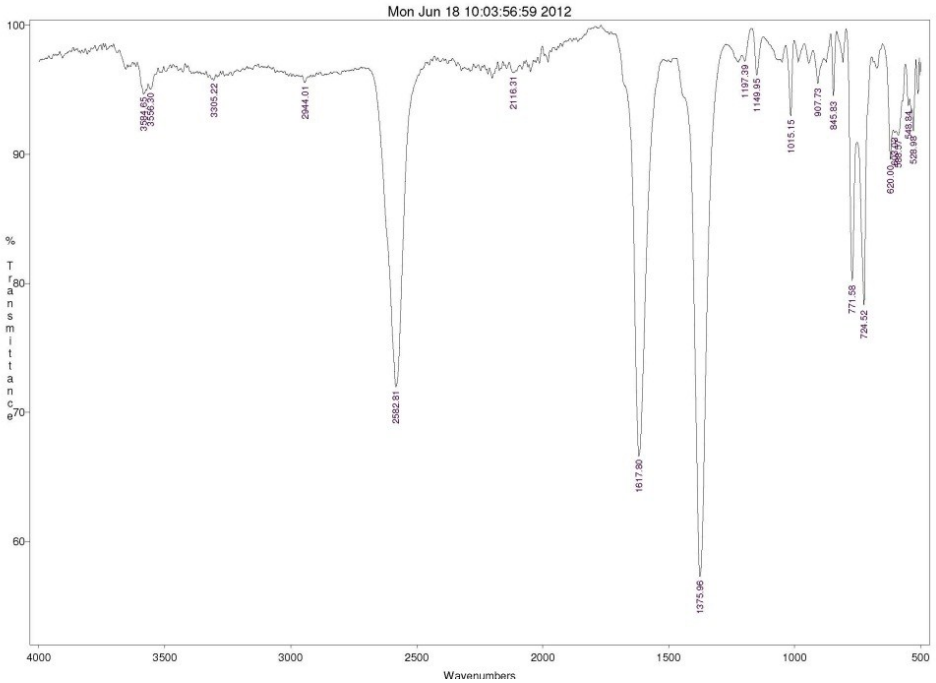
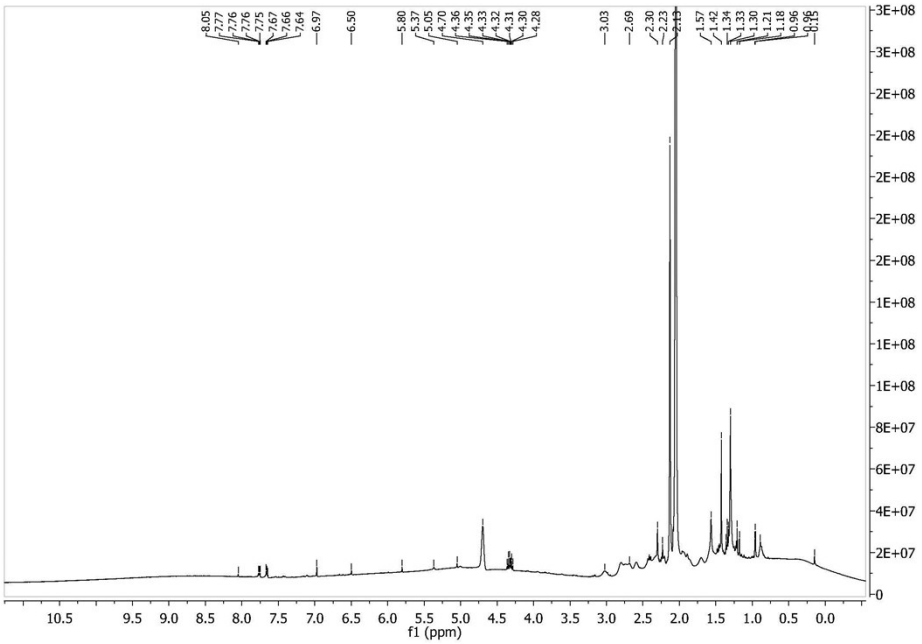


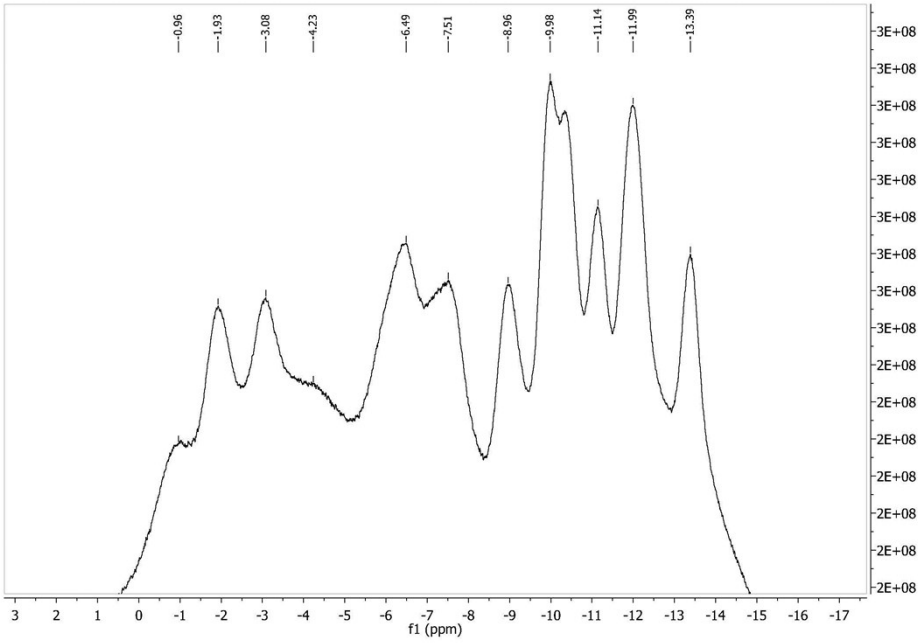
Figure S2. i) ^{1}H-RMN, ii) ^{1}H{^{11}B}-RMN, iii) ^{11}B-RMN, iv) ^{11}B{^{1}H}-RMN, v) ^{13}C-RMN vi) deconvulated ^{11}B-RMN spectra of compounds a) **1**, b) **2**

b)

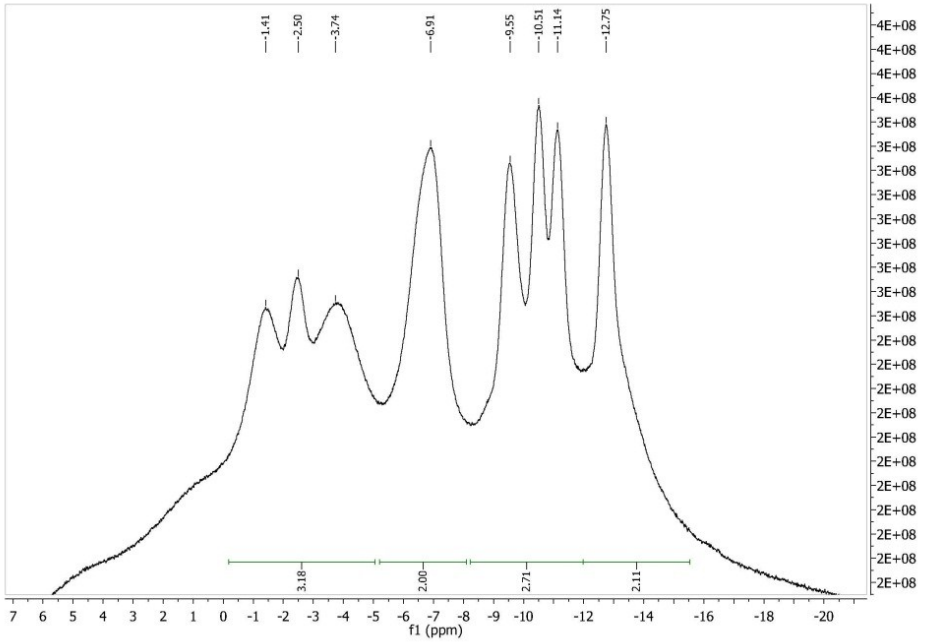
ii)



iii)

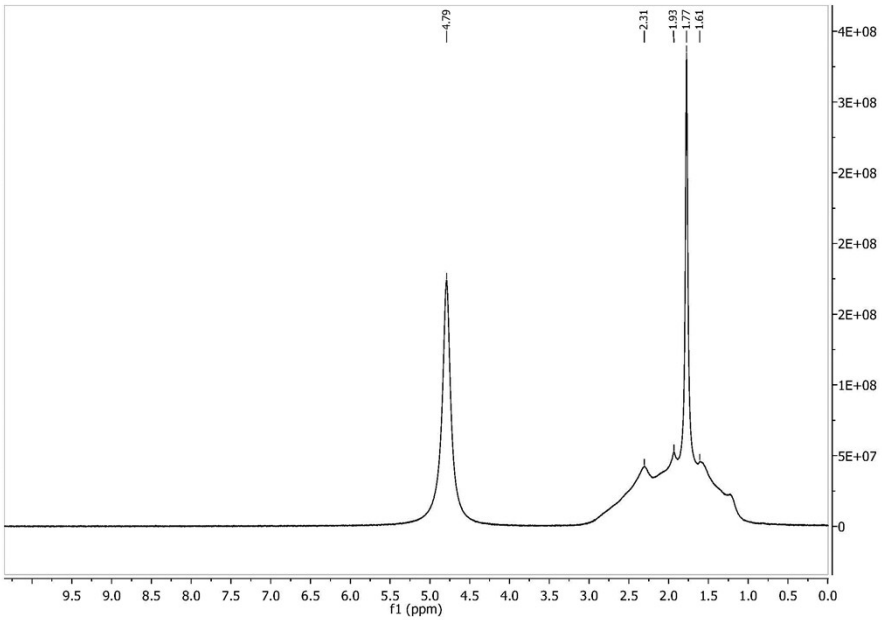


iv)

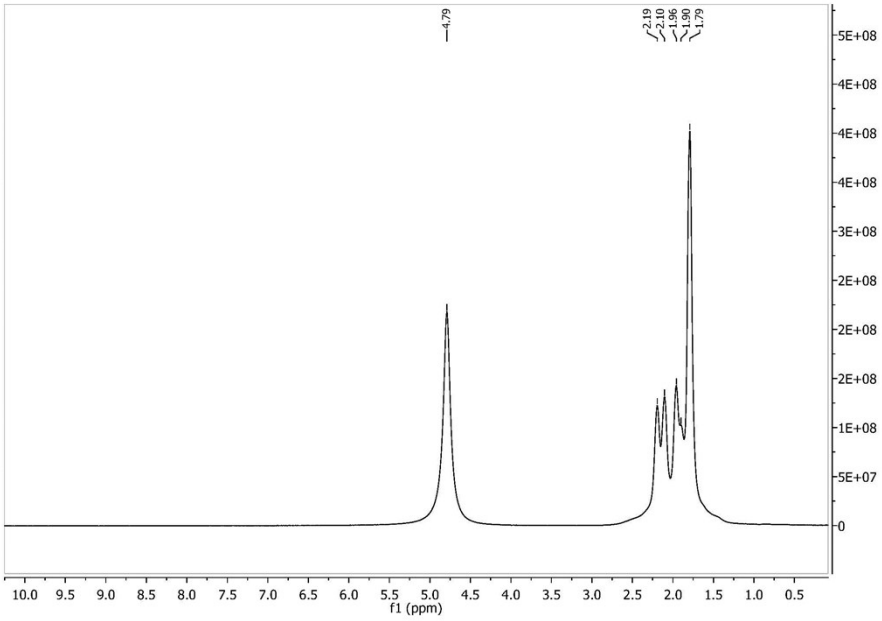

-1.41
-2.50
-3.74
-6.91
-9.55
-10.51
-11.14
-12.75
3.18
2.00
2.71
2.11
f1 (ppm)

b)

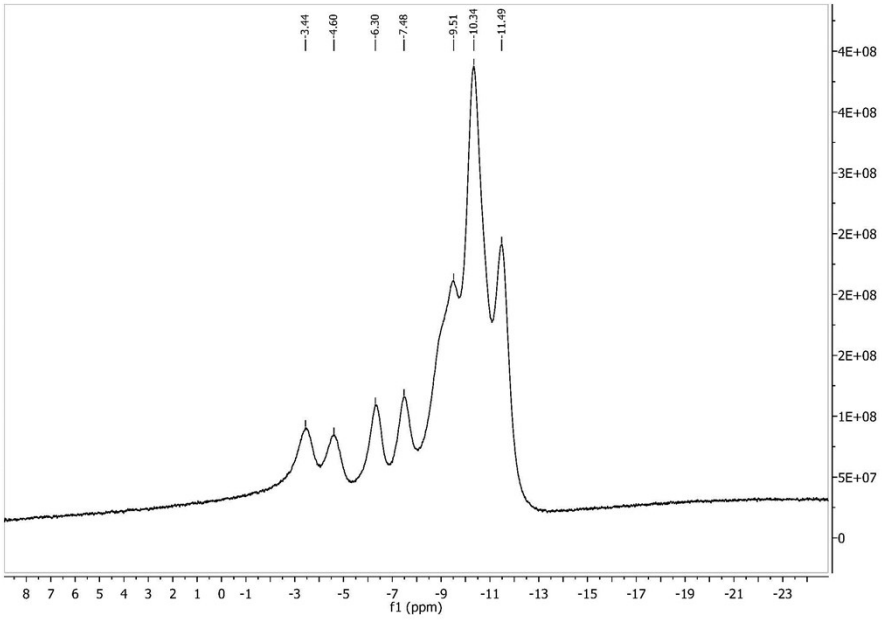
i)


4.79
2.31
1.93
1.77
1.61
f1 (ppm)

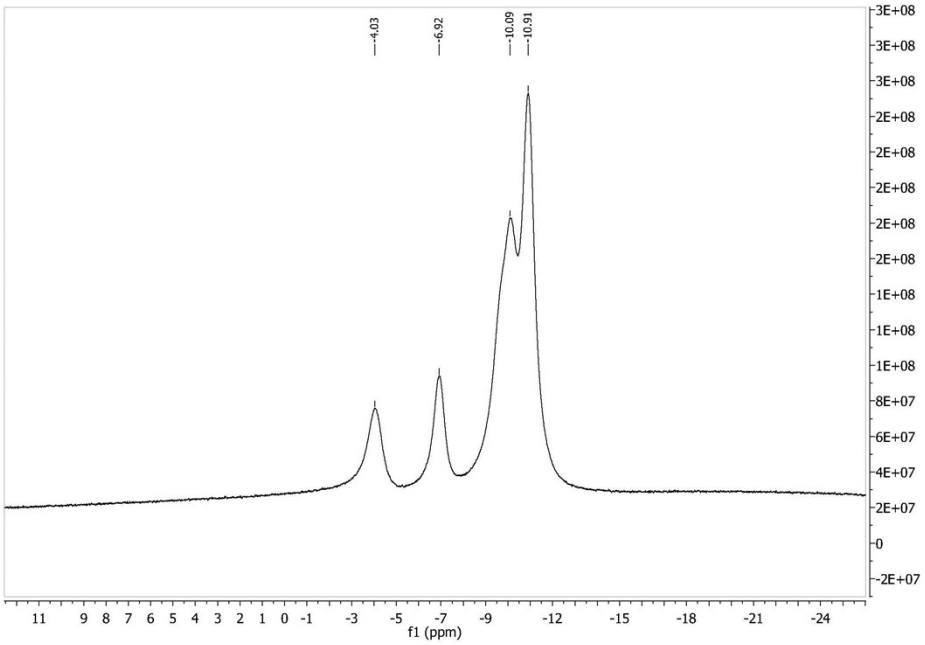
ii)


4.79
2.19
2.10
1.96
1.90
1.79
5E+08
4E+08
4E+08
4E+08
3E+08
2E+08
2E+08
2E+08
1E+08
5E+07
0
10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5
f1 (ppm)

iii)


3.44
4.60
6.30
7.48
9.51
10.34
11.49
4E+08
4E+08
3E+08
2E+08
2E+08
2E+08
1E+08
5E+07
0
8 7 6 5 4 3 2 1 0 -1 -3 -5 -7 -9 -11 -13 -15 -17 -19 -21 -23
f1 (ppm)

iv)


-4.03
-6.92
-10.09
-10.91
3E+08
3E+08
3E+08
2E+08
2E+08
2E+08
2E+08
2E+08
2E+08
1E+08
1E+08
1E+08
8E+07
6E+07
4E+07
2E+07
0
-2E+07
11 9 8 7 6 5 4 3 2 1 0 -1 -3 -5 -7 -9 -12 -15 -18 -21 -24
f1 (ppm)

vi)

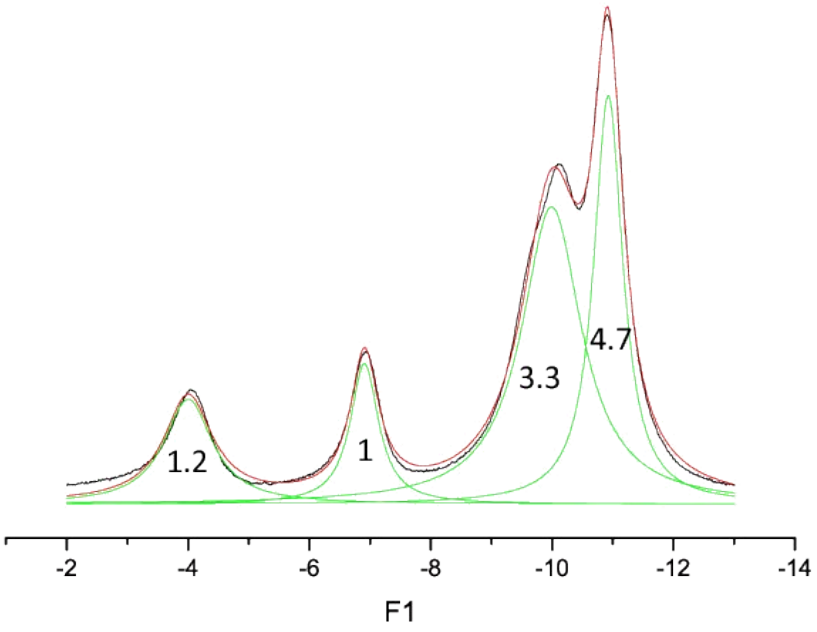
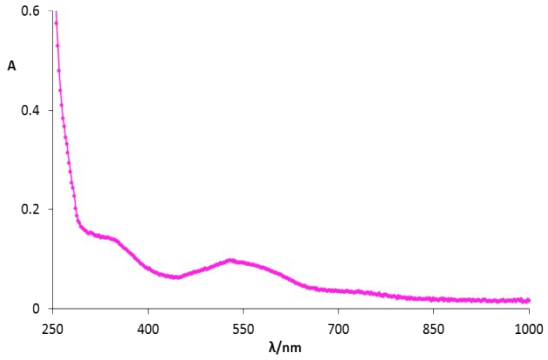

1.2
1
3.3
4.7
-2
-4
-6
-8
-10
-12
-14
F1

Figure S3. UV-vis spectra for compounds **1** and **2**

a)



b)

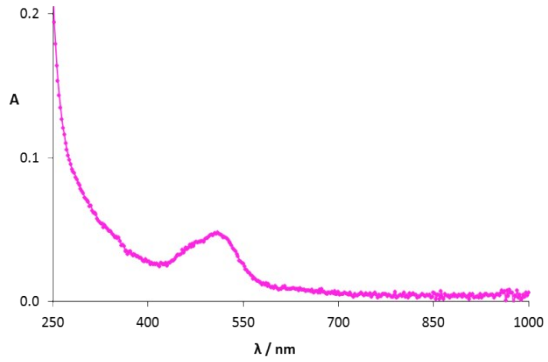


Figure S4. $M/N\mu_B$ vs. H data, for **1** (■) and **3** (▲), respectively.

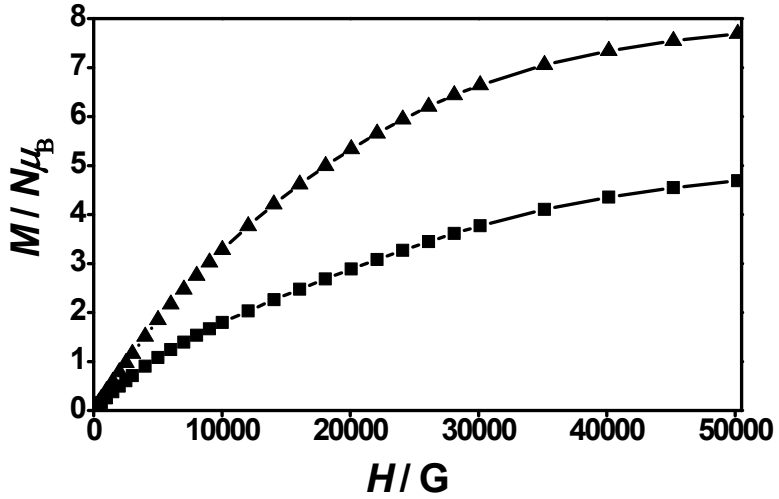


Figure S5. $M/N\mu_B$ vs. H/T data, for **1** (left) and **3** (right), respectively. Experimental data are shown as black squares and the resulting fitting as a red line.