Electronic Supplementary Information

Unexpected Reactivity of Alkylaluminum Complex of Non-Innocent 1,2-bis[(2,6-diisopropylphenyl)imino]acenaphthene Ligand (dpp-bian)

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Contents of supplementary information:

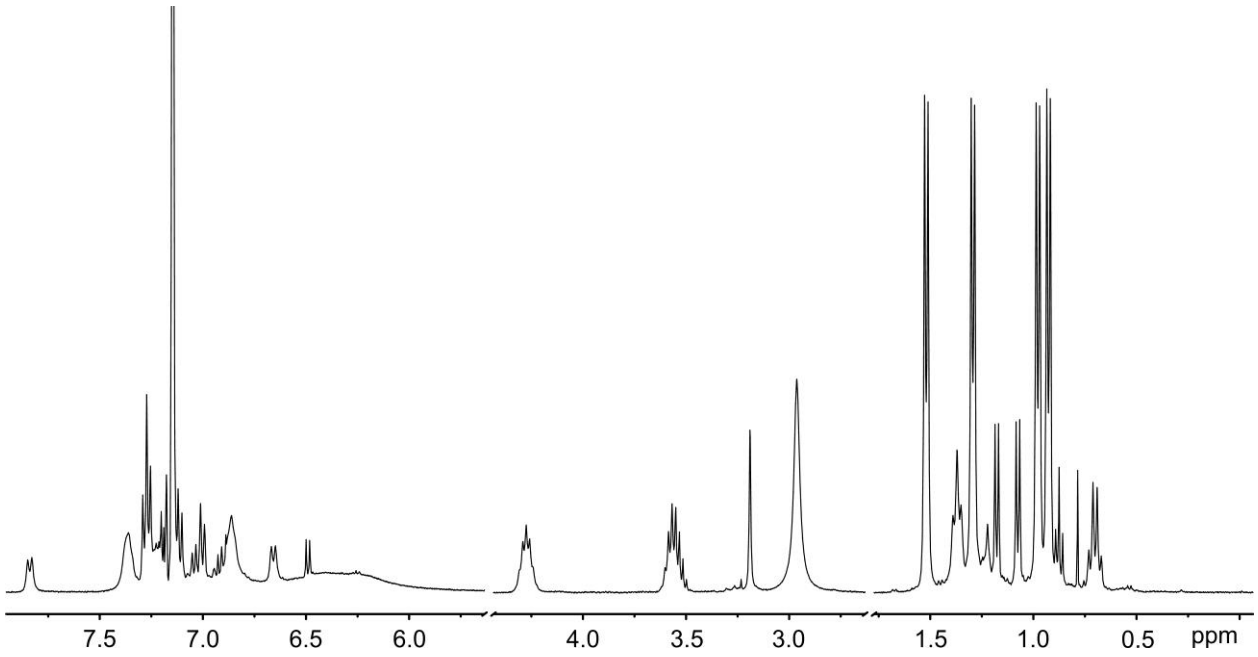

Figure 1S. ^{1}H NMR spectrum of compound **2** at 298 K in C_6D_6, 400 MHz.

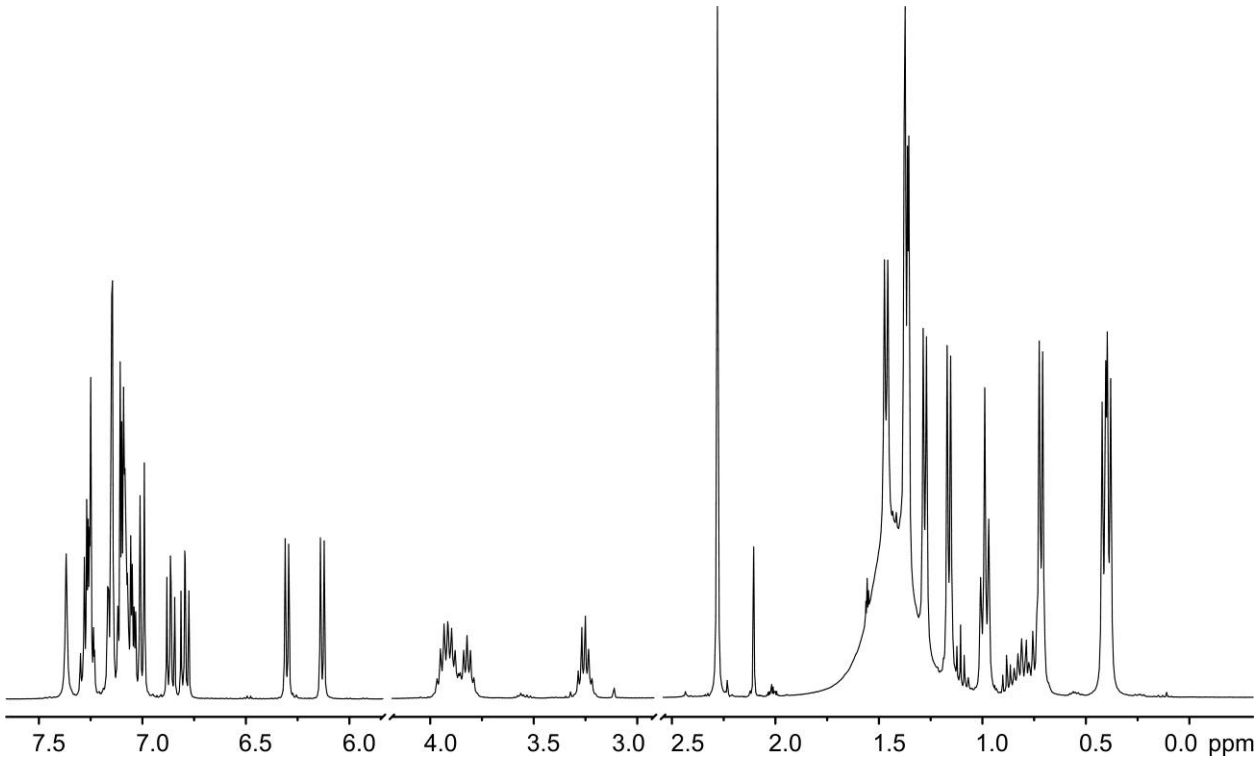

Figure 2S. ^{1}H NMR spectrum of compound **3** at 298 K in C_6D_6, 400 MHz.

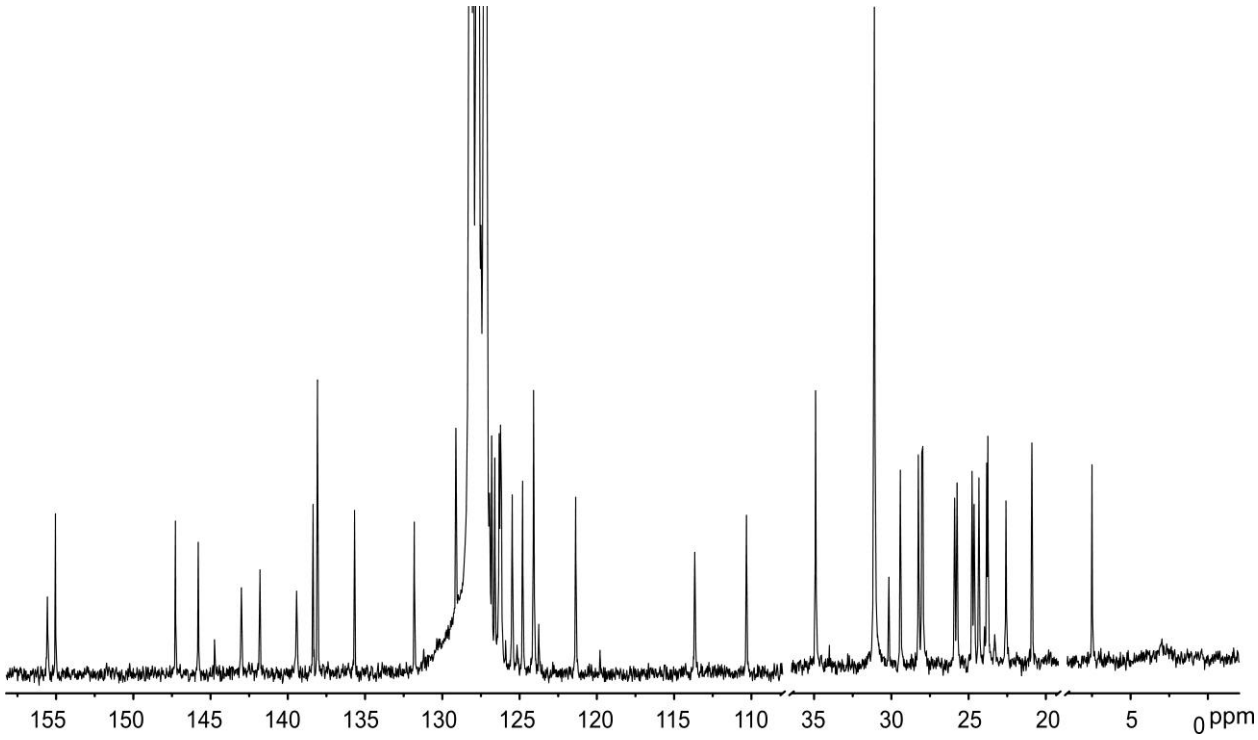

Figure 3S. ^{13}C NMR spectrum of compound **3** at 298 K in C_6D_6, 50 MHz.

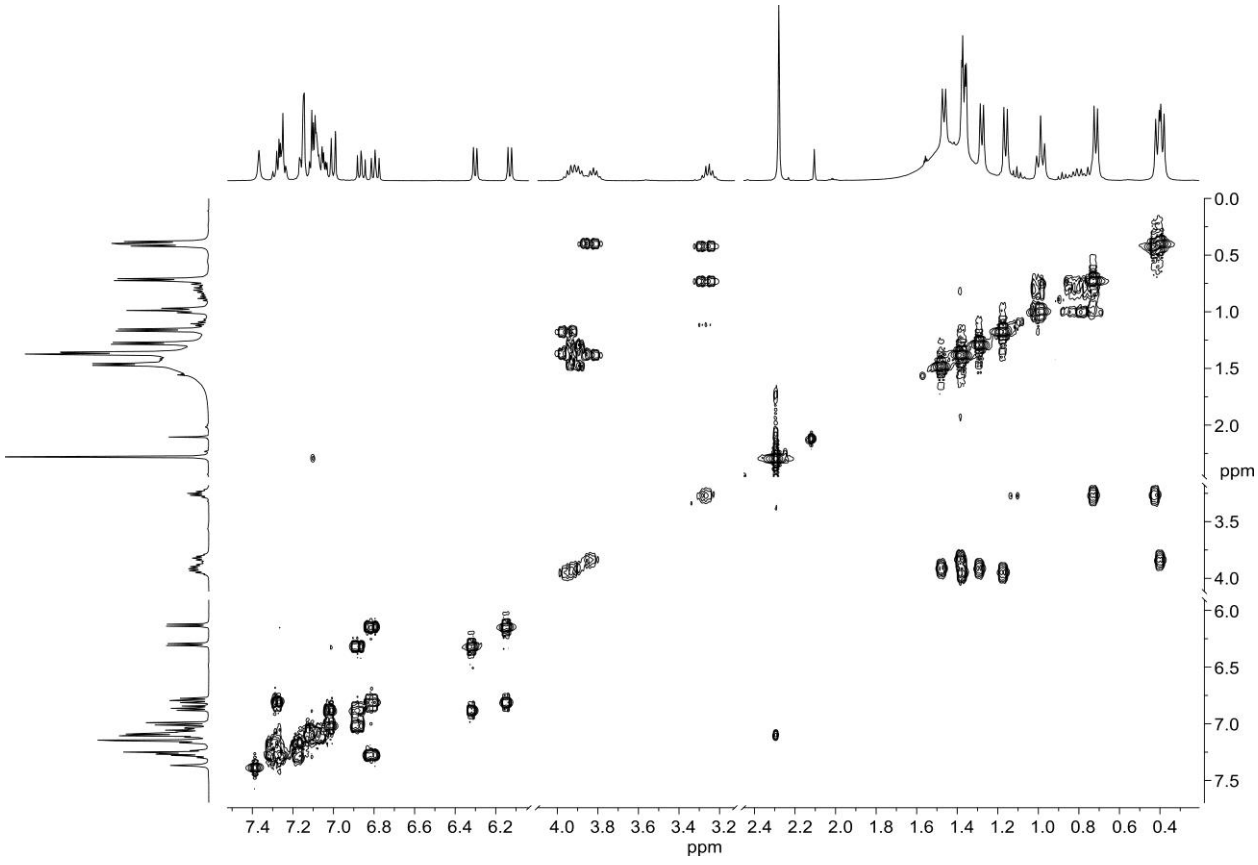

Figure 4S. COSY $^{1}H–^{1}H$ NMR spectrum of compound **3** at 298 K in C_6D_6.

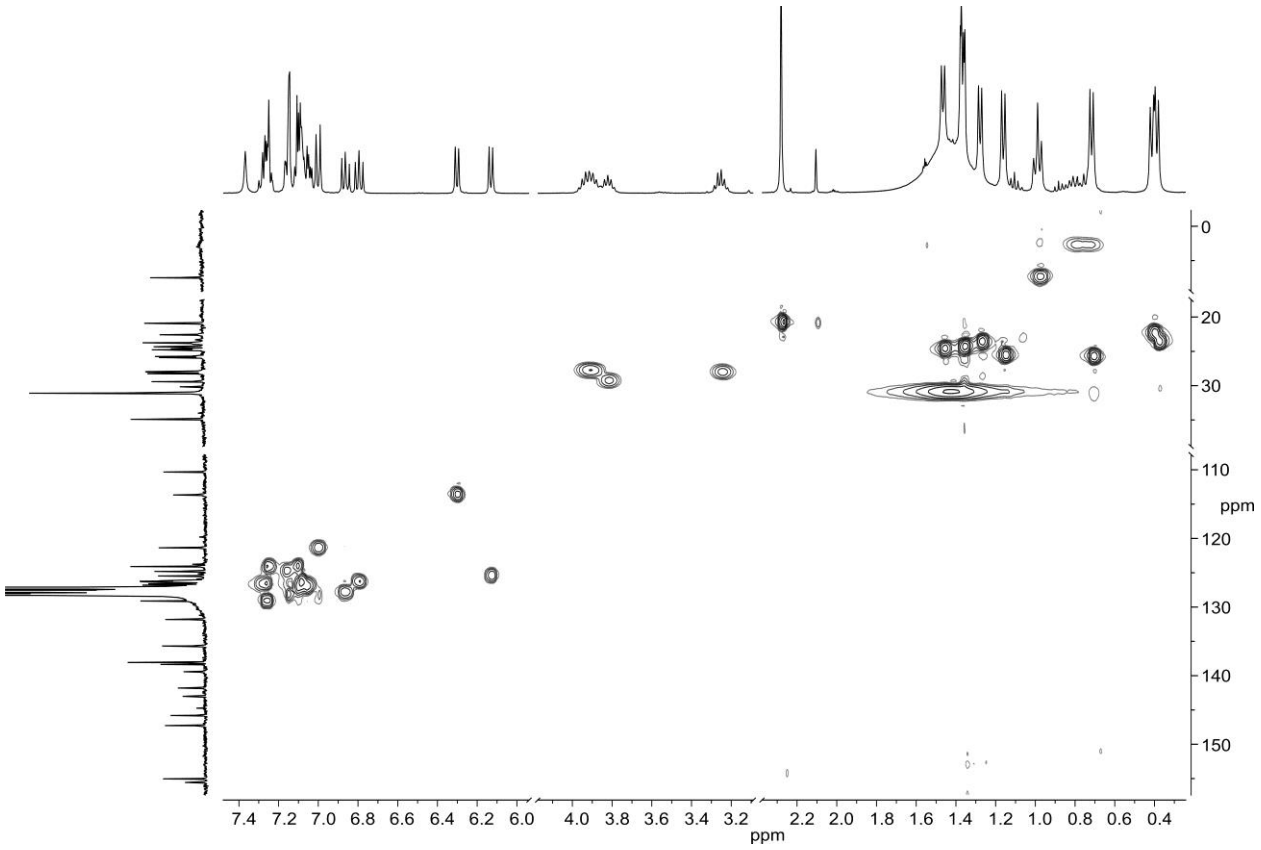

Figure 5S. COSY $^{1}H–^{13}C$ HSQC NMR spectrum of compound **3** at 298 K in C_6D_6.

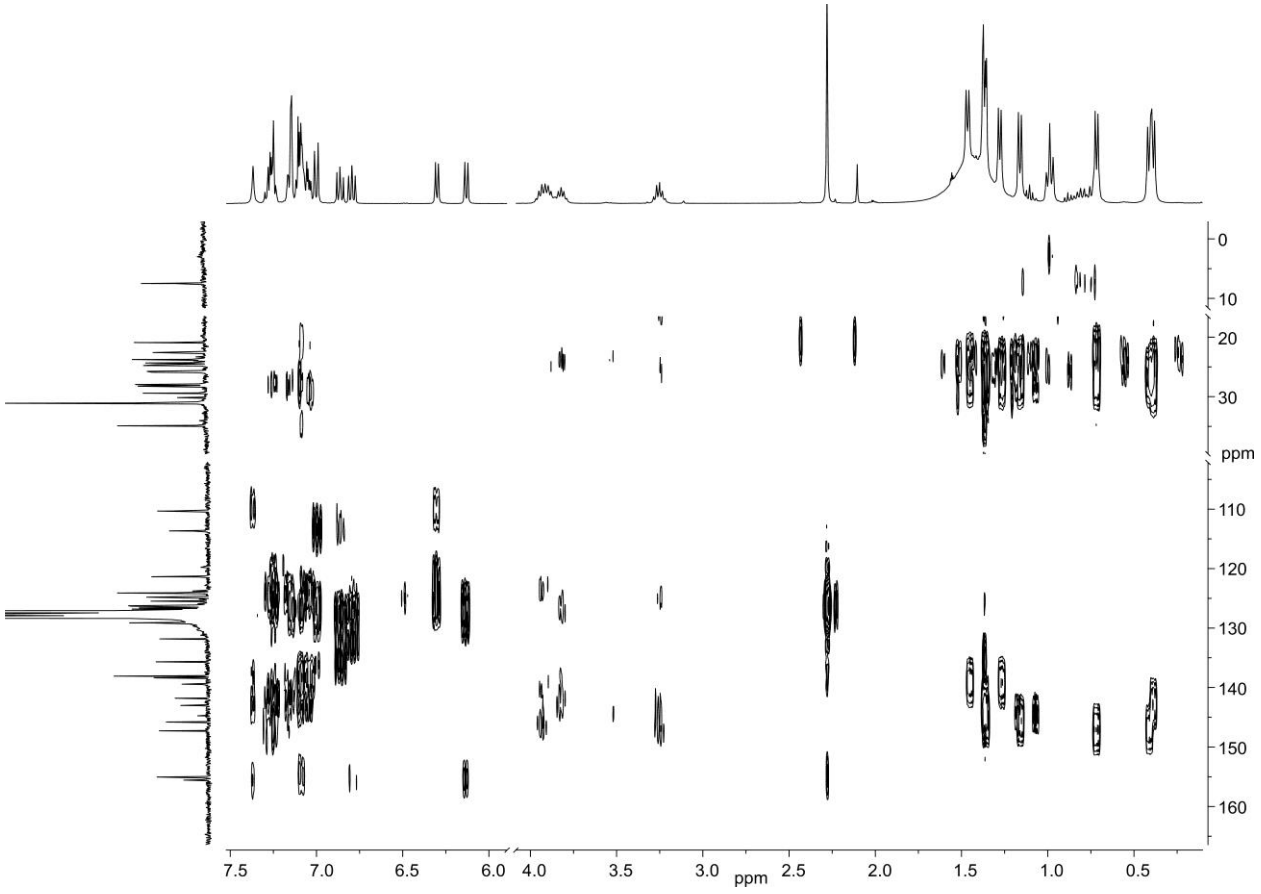

Figure 6S. COSY $^{1}H–^{13}C$ HMBC NMR spectrum of compound **3** at 298 K in C_6D_6.

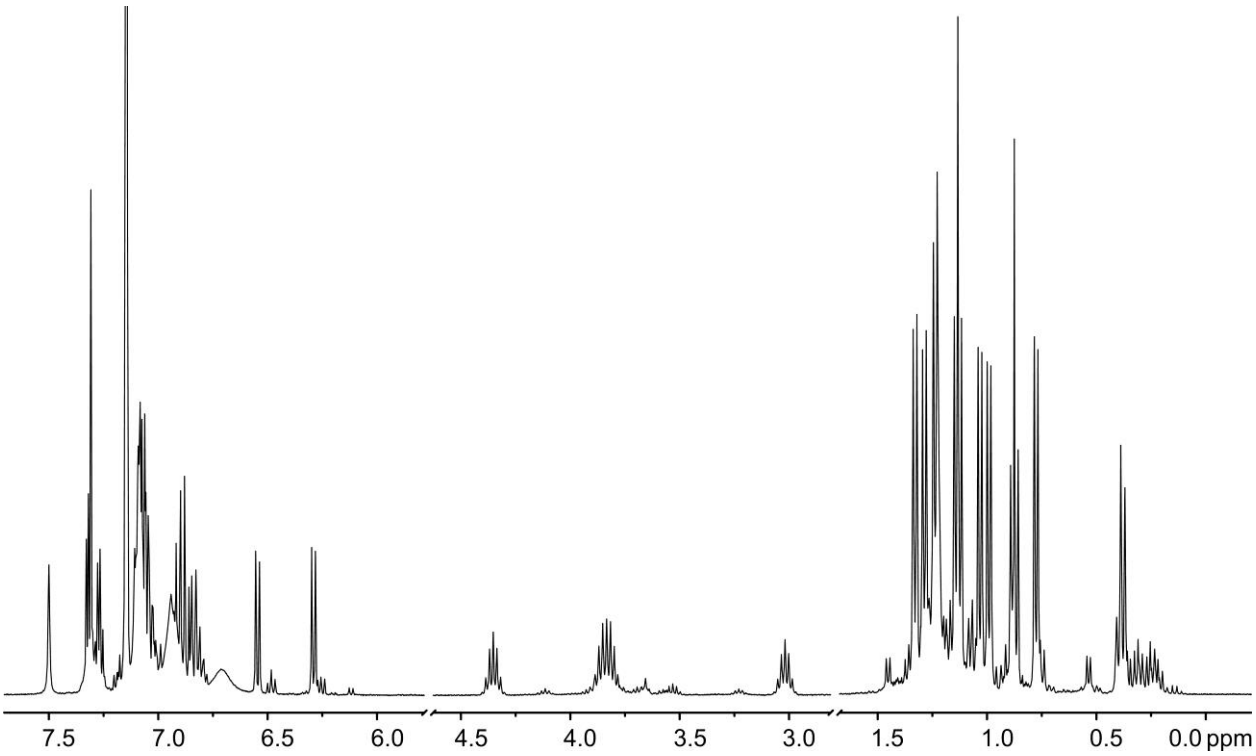

Figure 7S. ^{1}H NMR spectrum of compound **4** at 298 K in C_6D_6, 400 MHz.

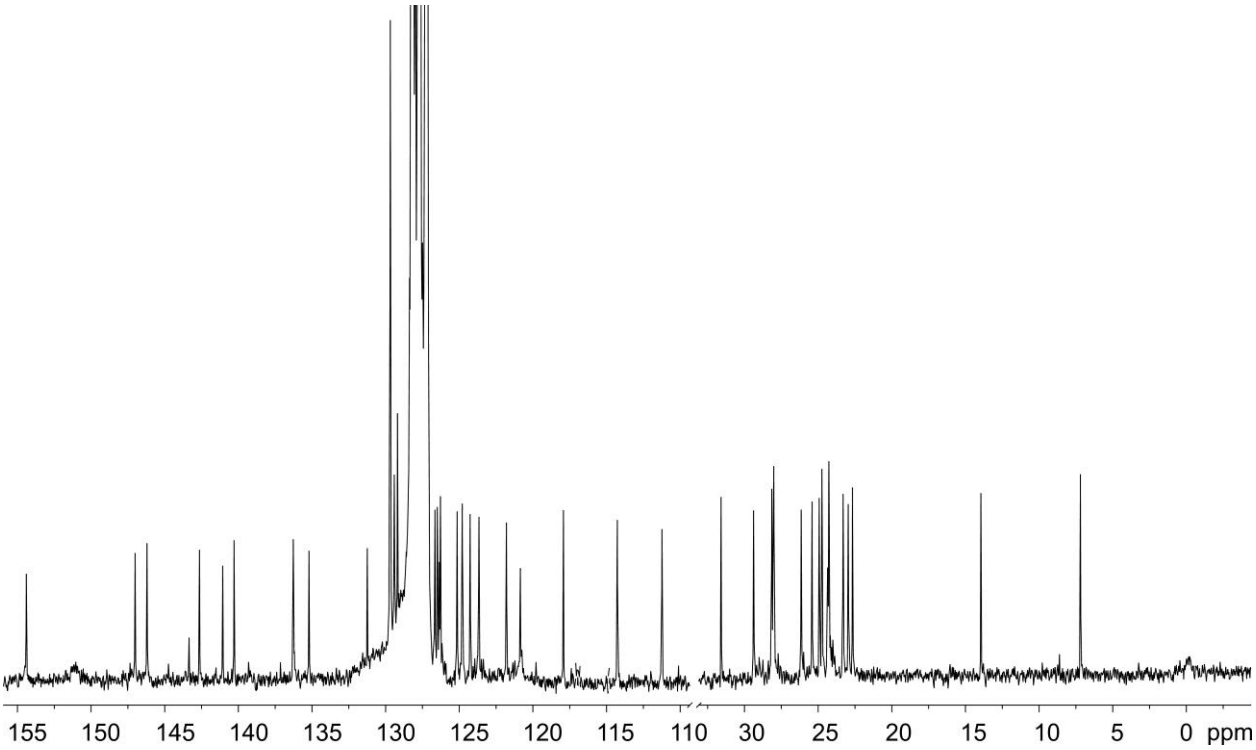

Figure 8S. ^{13}C NMR spectrum of compound **4** at 298 K in C_6D_6, 50 MHz.

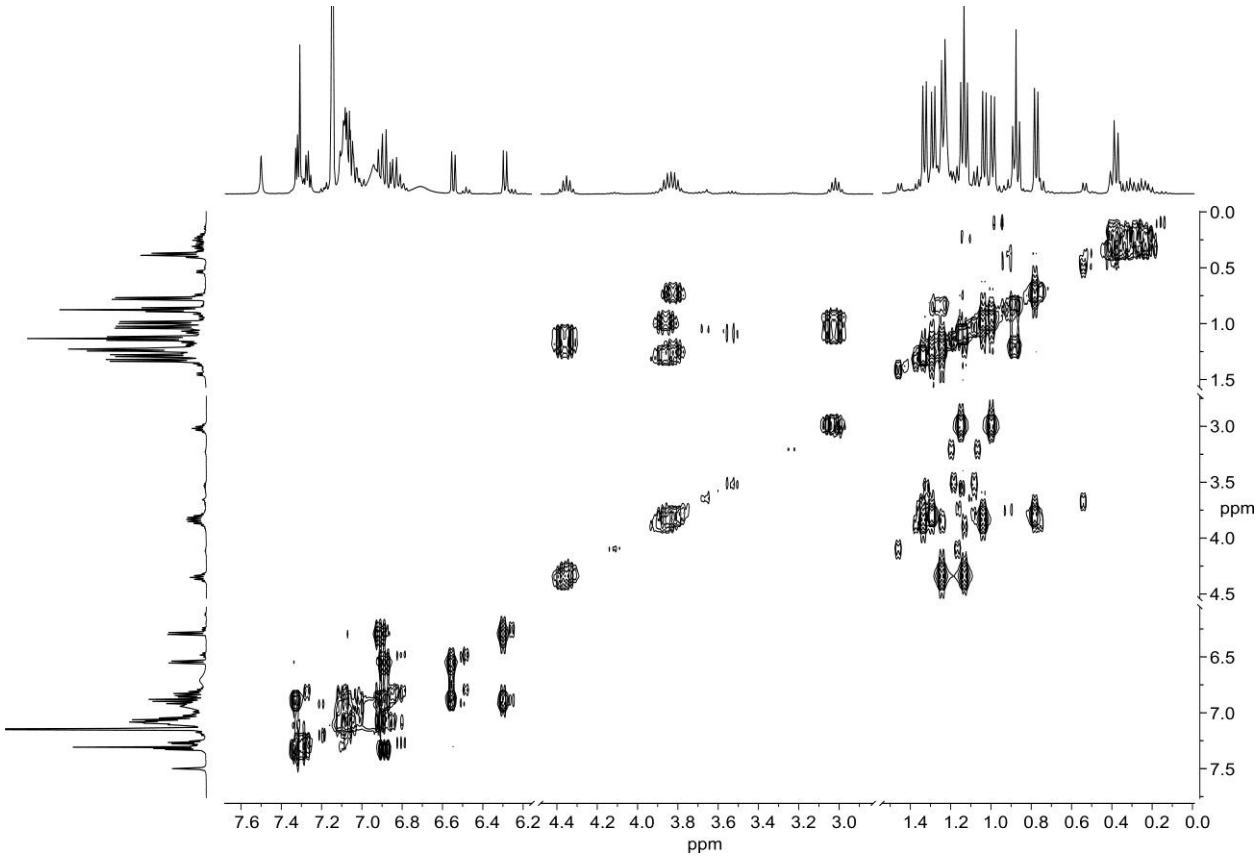

Figure 9S. COSY $^{1}H–^{1}H$ NMR spectrum of compound **4** at 298 K in C_6D_6.

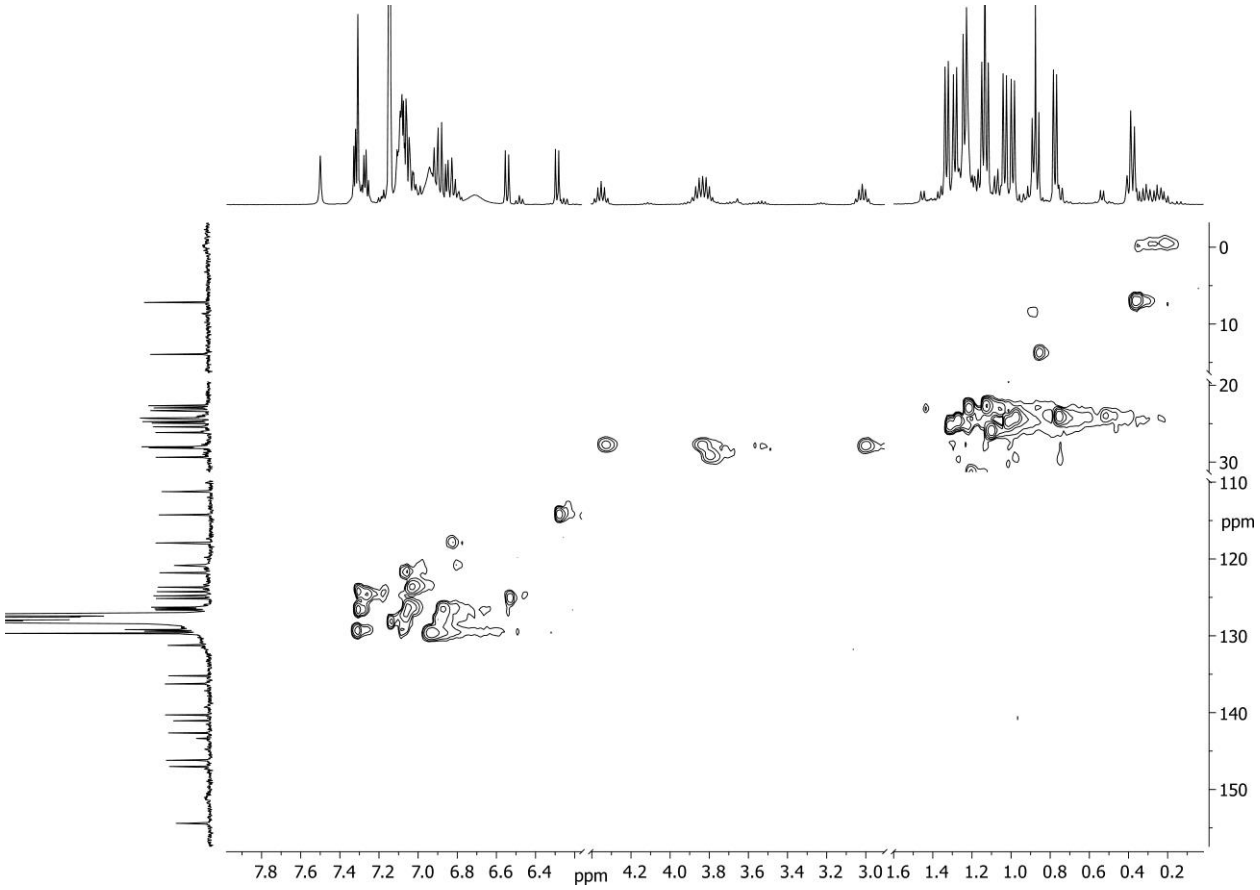

Figure 10S. COSY $^{1}H–^{13}C$ HSQC NMR spectrum of compound **4** at 298 K in C_6D_6.

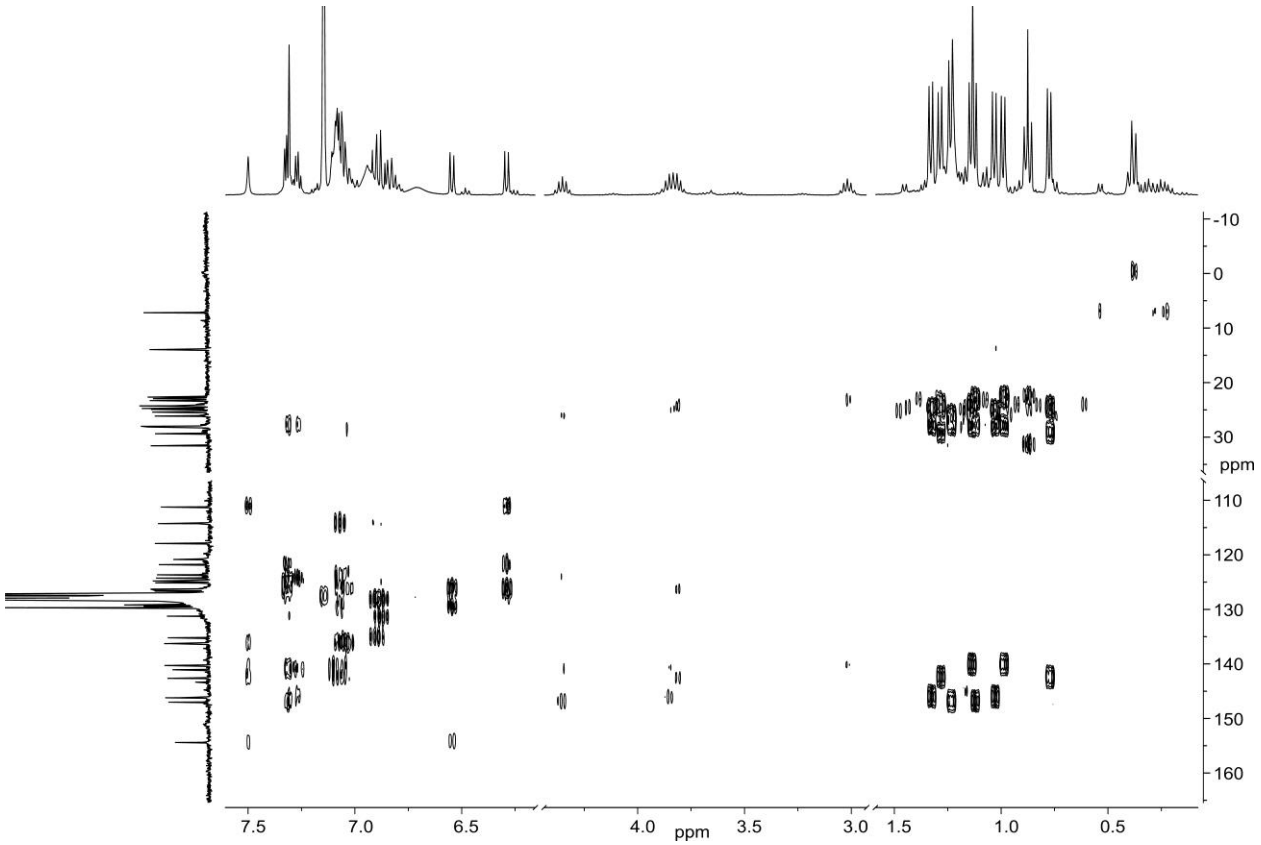

Figure 11S. COSY $^{1}H–^{13}C$ HMBC NMR spectrum of compound **4** at 298 K in C_6D_6.

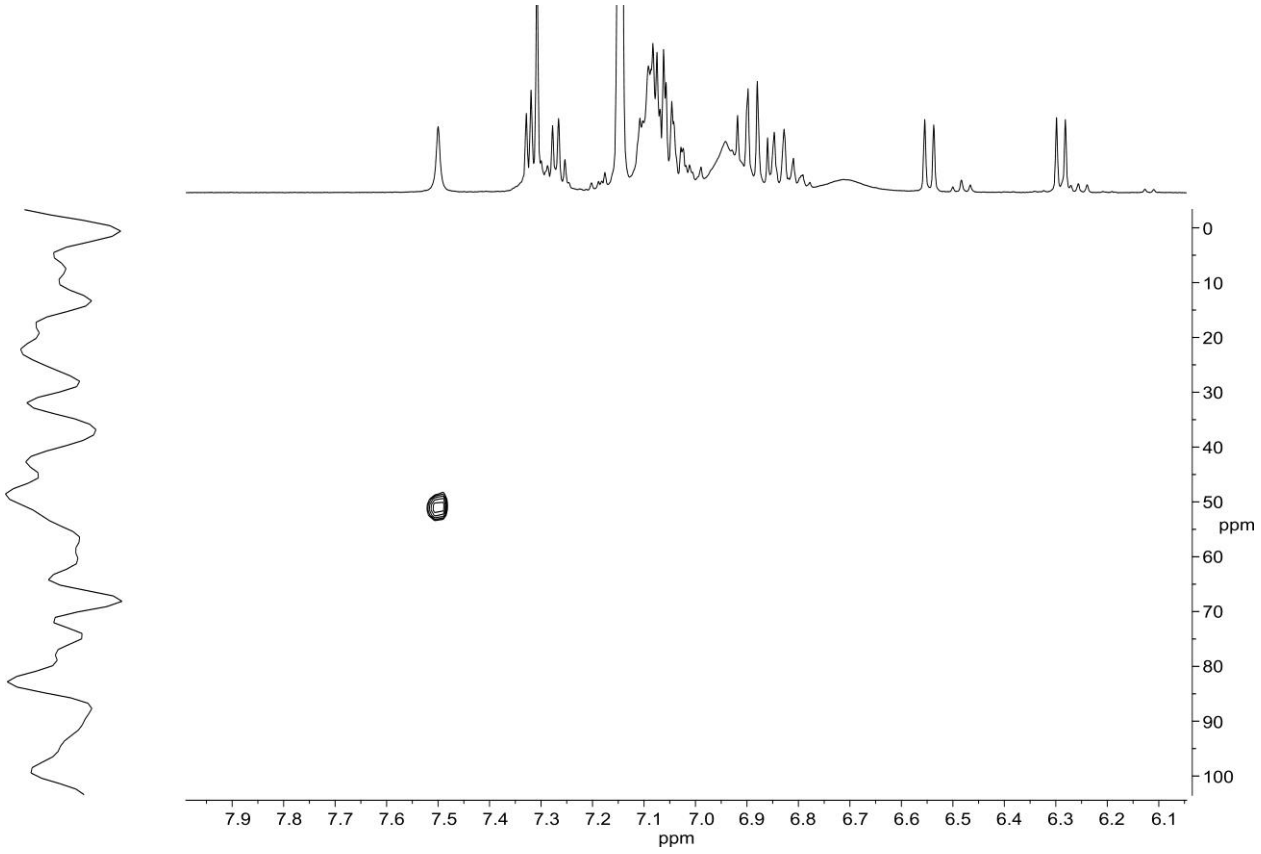

Figure 12S. The upfiled region of the COSY $^{1}H–^{15}N$ HSQC NMR spectrum of compound **4** at 298 K in C_6D_6.

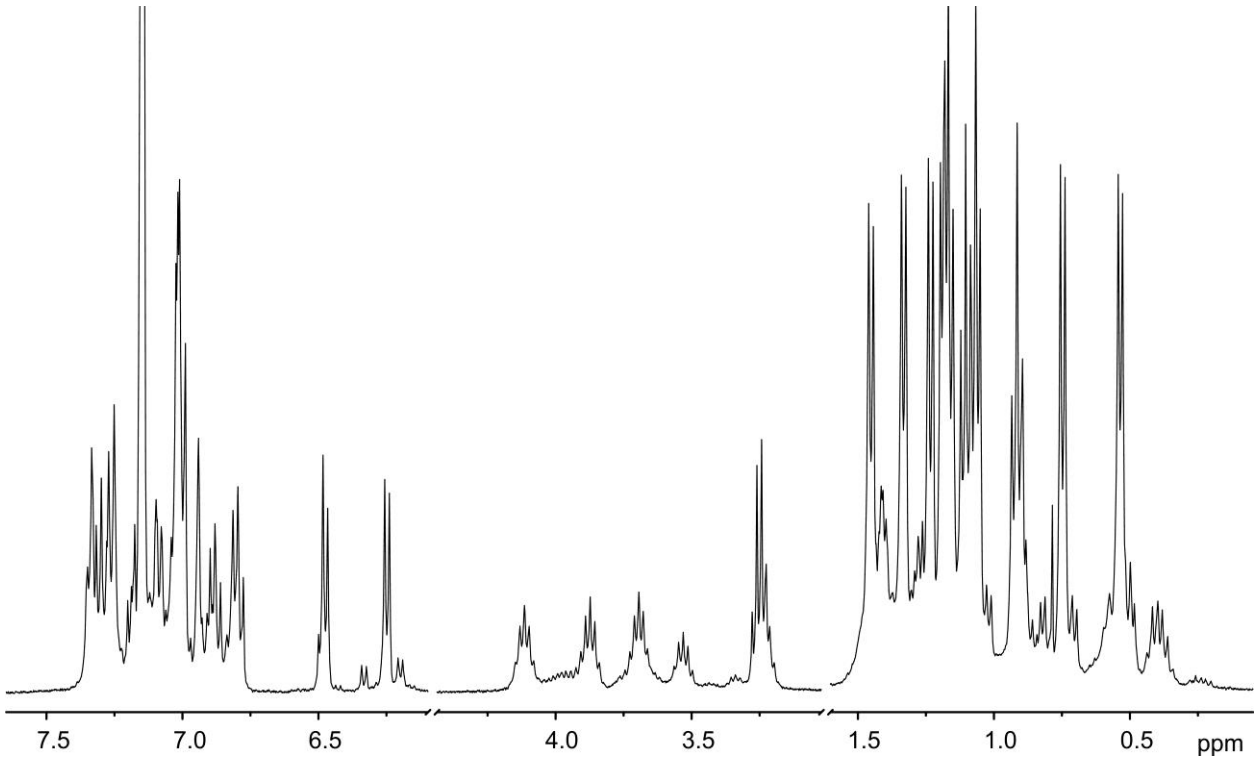

Figure 13S. ^{1}H NMR spectrum of compound **5** at 298 K in C_6D_6, 400 MHz.

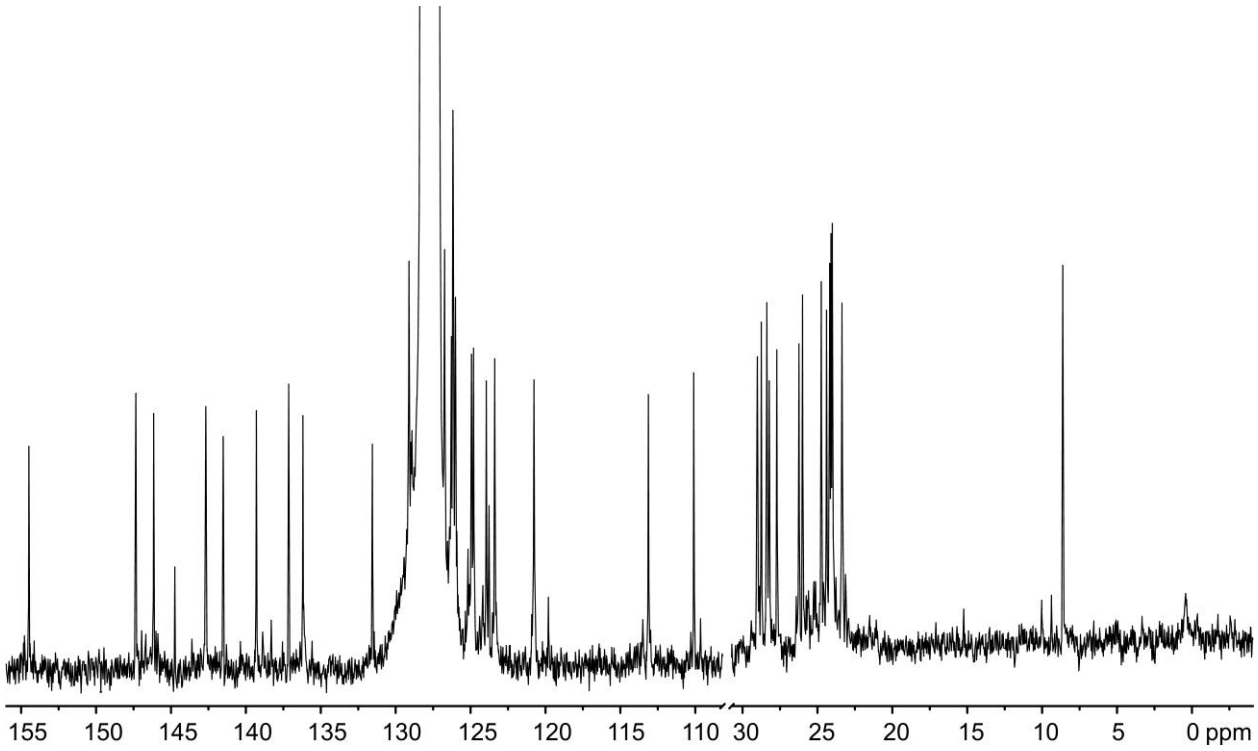

Figure 14S. ^{13}C NMR spectrum of compound **5** at 298 K in C_6D_6, 50 MHz.

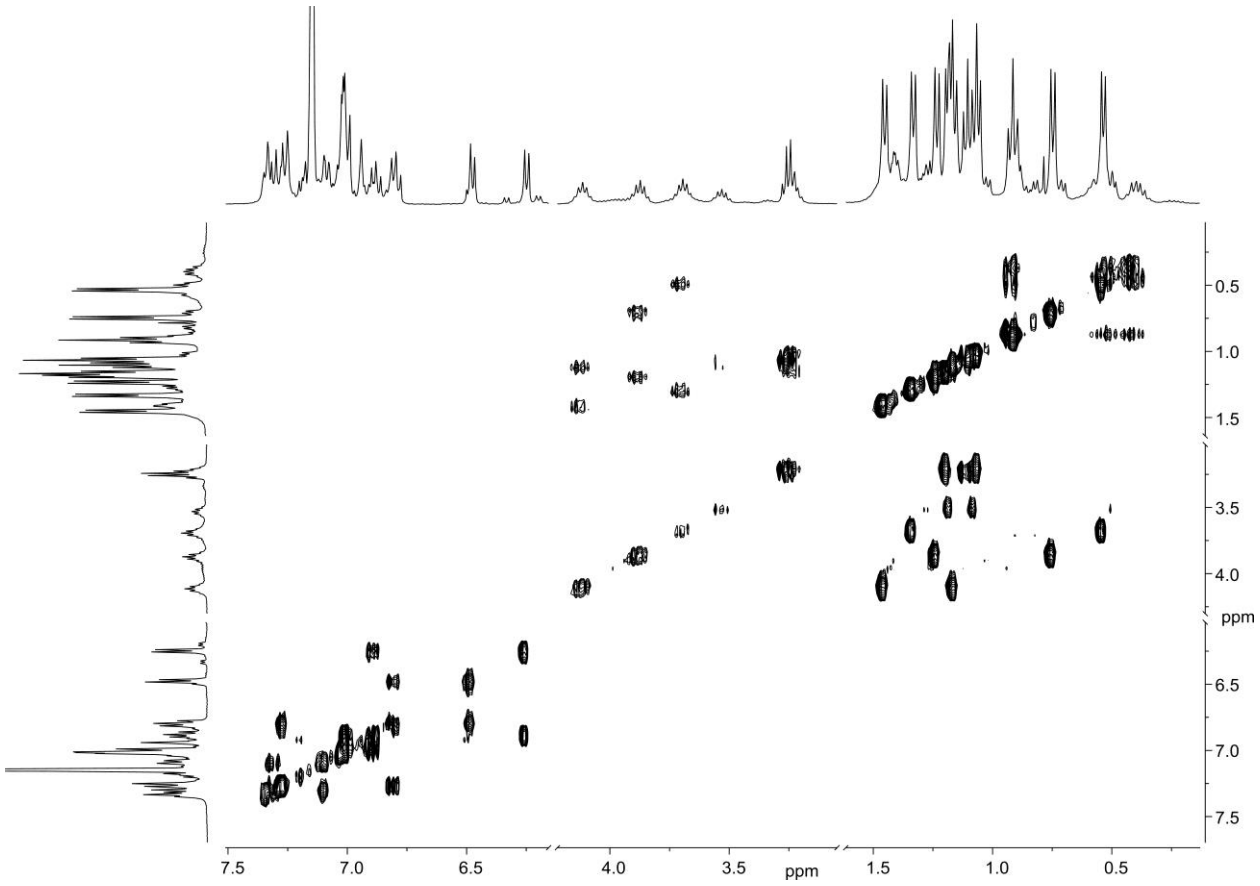

Figure 15S. COSY $^{1}H–^{1}H$ NMR spectrum of compound **5** at 298 K in C_6D_6.

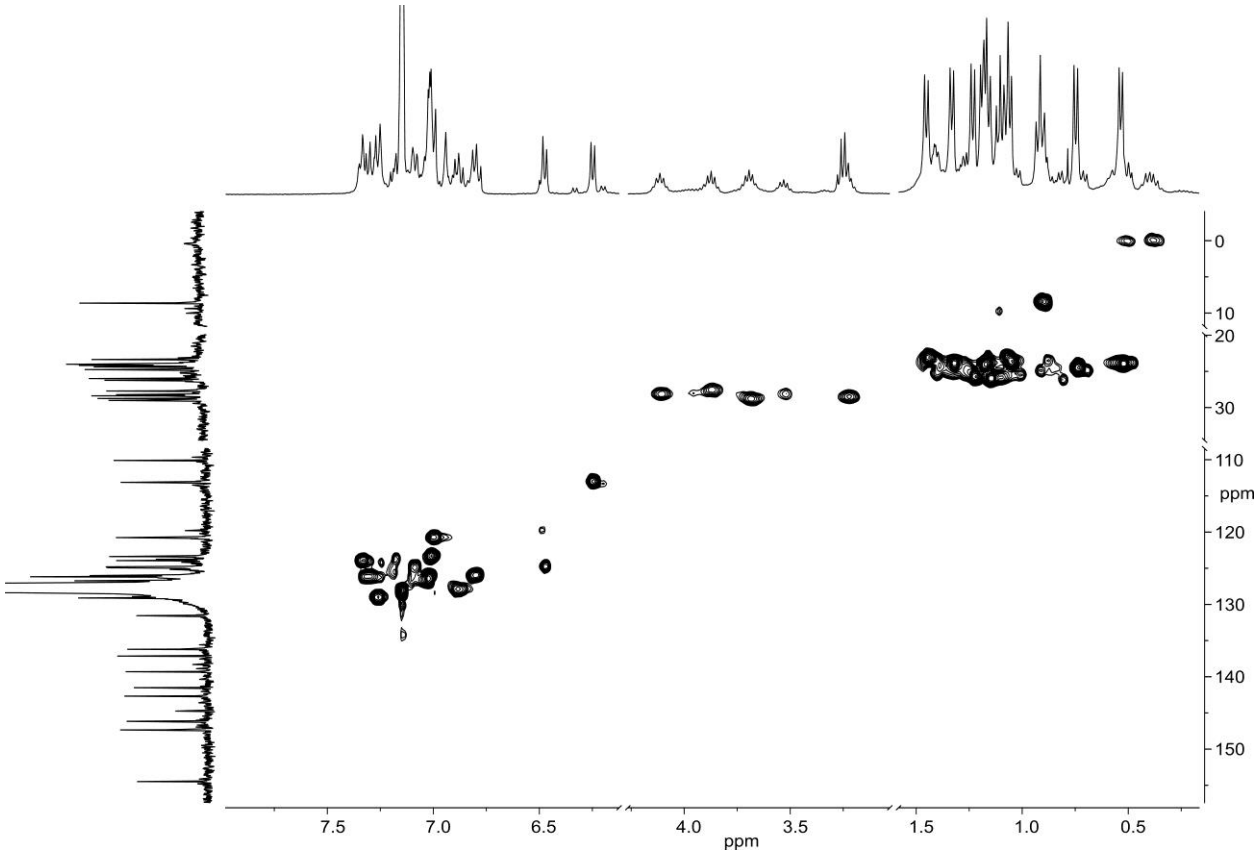

Figure 16S. COSY $^{1}H–^{13}C$ HSQC NMR spectrum of compound **5** at 298 K in C_6D_6.

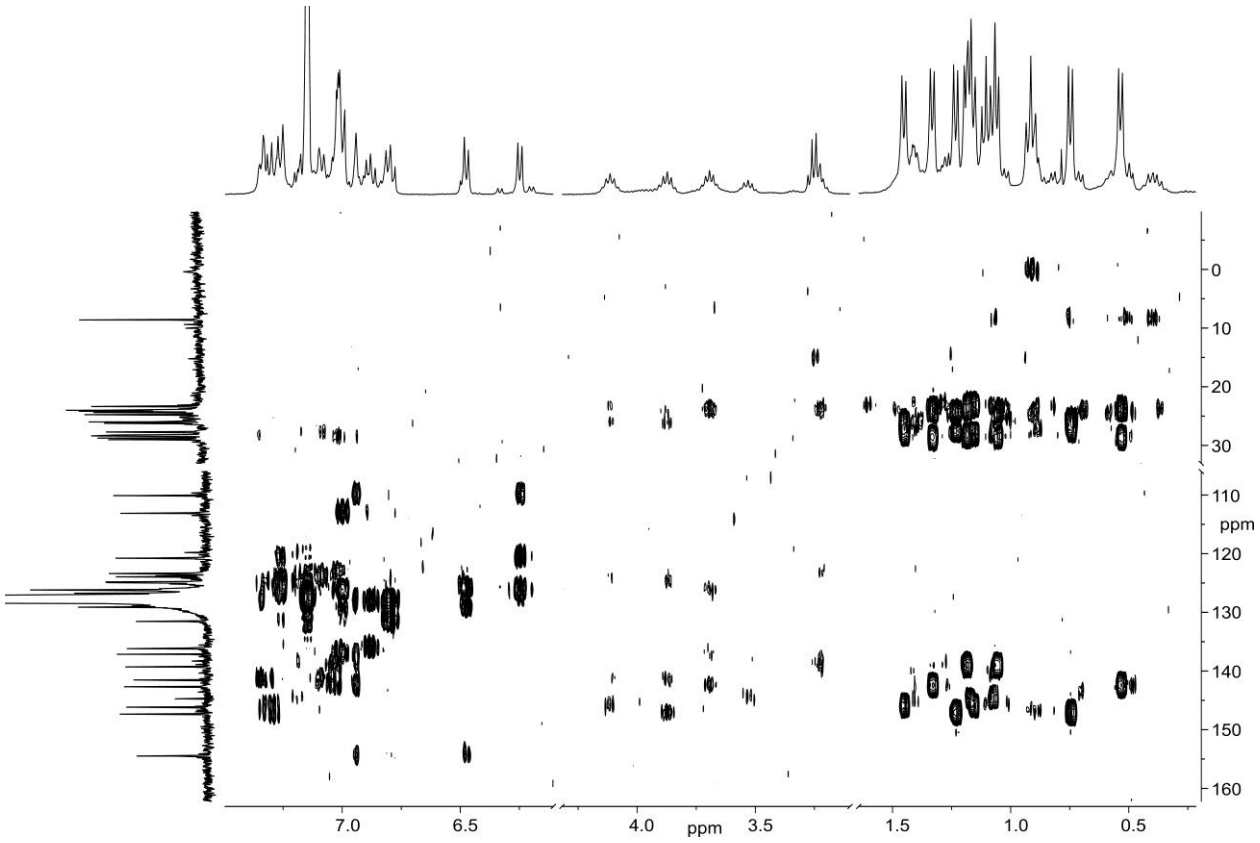

Figure 17S. COSY $^{1}H–^{13}C$ HMBC NMR spectrum of compound **5** at 298 K in C_6D_6.

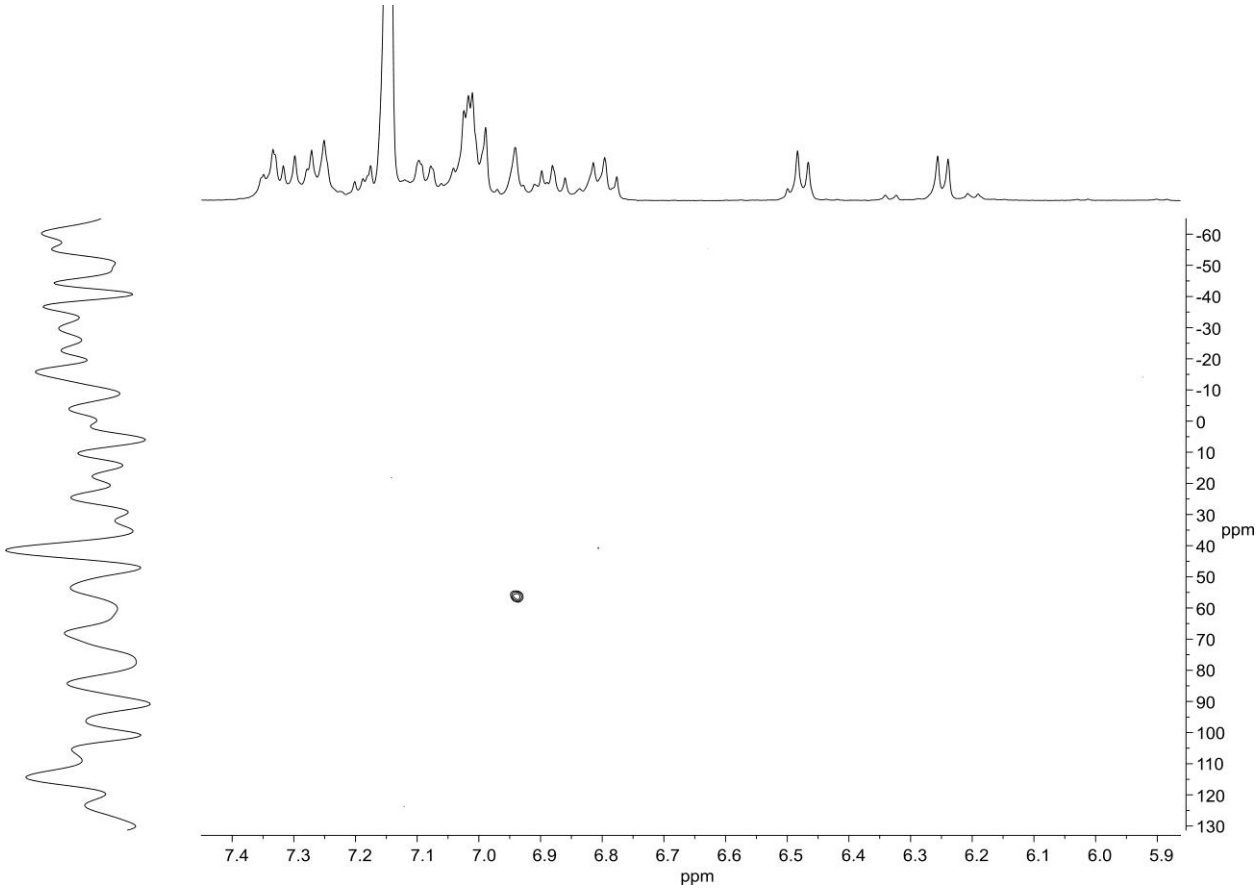

Figure 18S. The upfiled region of the COSY $^{1}H–^{15}N$ HSQC NMR spectrum of compound **5** at 298 K in C_6D_6.

Table 1S. Crystal structure data for **2**, **3** and **5**.

	2	**3**	**5**
Empirical Formula	$C_{53}H_{59}AlN_2O_3$	$C_{53}H_{69}AlN_2O$	$C_{76}H_{92}Al_2N_4O$
M	799.00	777.08	1131.49
T/K	100(2)	100(2)	100(2)
Crystal system	Monoclinic	Orthorhombic	Triclinic
Space group	*P*2(1)/n	*P*bca	*P*-1
a/Å	10.6249(5)	14.8988(4)	12.1969(4)
b/Å	21.9891(11)	16.8722(5)	14.9121(5)
c/Å	19.0941(9)	36.5541(11)	19.8954(7)
α/deg	90	90	80.879(1)
β/deg	94.695(1)	90	76.976(1)
γ/deg	90	90	66.171(1)
V/Å^3	4446.0(4)	9188.8(5)	3215.73(19)
Z	4	8	2
d_{calc}/Mg•m^{-3}	1.194	1.123	1.169
μ(Mo Kα) mm^{-1}	0.091	0.083	0.093
F(000)	1712	3376	1220
Crystal size/mm	0.80 × 0.63 × 0.45	0.39 × 0.28 × 0.18	0.29 × 0.14 × 0.11
θ range/degree	2.12 to 27.00	1.91 to 26.00	1.764 to 25.999
h, k, l	-13 ≤ h ≤ 12 -28 ≤ k ≤ 14 -24 ≤ l ≤ 24	-18 ≤ h ≤ 18 -20 ≤ k ≤ 20 -45 ≤ l ≤ 45	-15 ≤ h ≤ 15 -18 ≤ k ≤ 18 -24 ≤ l ≤ 24
Reflections Collected	28544	75827	28185
Independent Reflections	9695	9011	12541
R_{int}	0.0276	0.0974	0.0361
Data/Restraints/Param.	9695 / 2 / 541	9011 / 1 / 534	12541 / 1 / 783
GooF	1.052	1.003	0.997
R_1/wR_2 [*I*>2 σ (*I*)]	0.0443/0.1150	0.0456/ 0.1015	0.0472/0.1123
R_1/wR_2 (all data)	0.0603/0.1223	0.0846/ 0.1119	0.0740/0.1225
Larg. Diff. Peak and Hole/ e • Å^{-3}	0.396 / -0.213	0.355 and -0.274	0.340 and -0.279