Electronic Supplementary Information for Dalton Transactions

Electronic Supporting Information (ESI)

A Single Source Precursor for Low Temperature Processing of Nanocrystalline $MgAl_2O_4$ Spinel: Synthesis and Characterization of $[MgAl_2(\mu_3\text{-}O)(\mu_2\text{-}O^iPr)_4(O^iPr)_2]_4$

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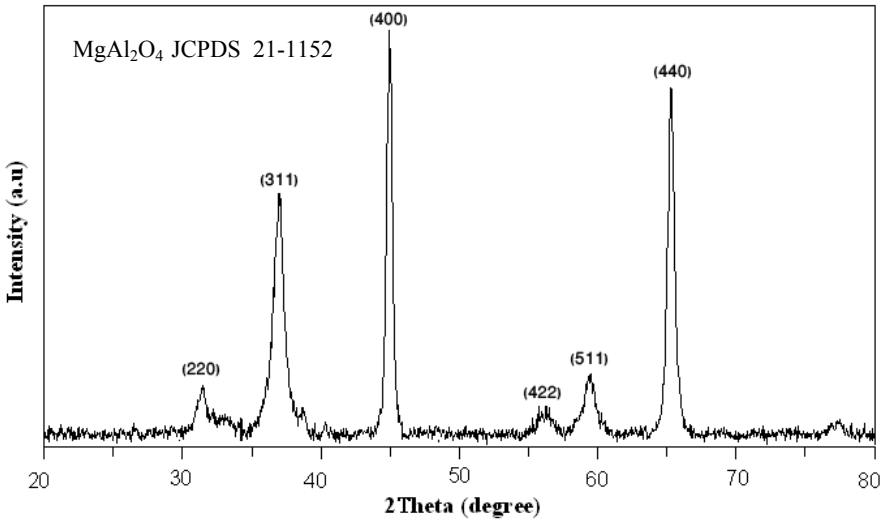

Figure S1. X-ray powder diffraction pattern of $MgAl_2O_4$ obtained from hydrolysis of **II**.

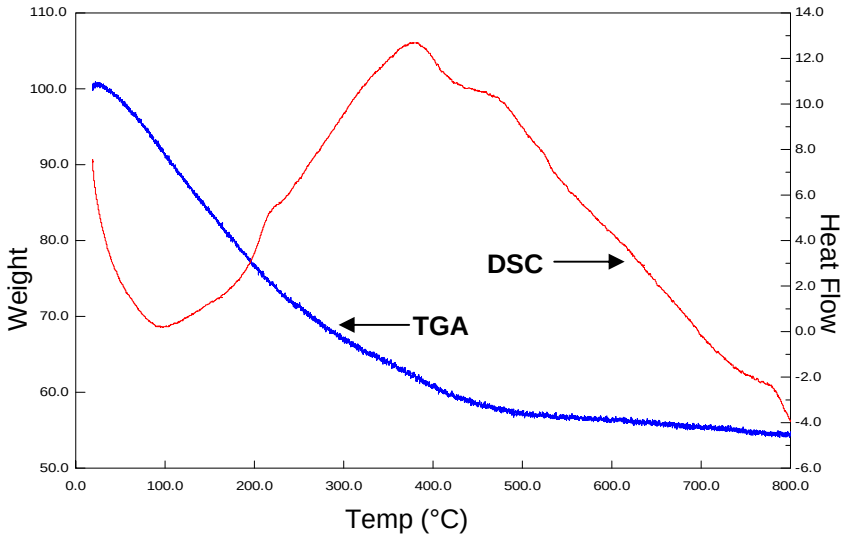

Figure S2. TGA- DSC profile of the gel obtained from sol-gel processing of **II**.

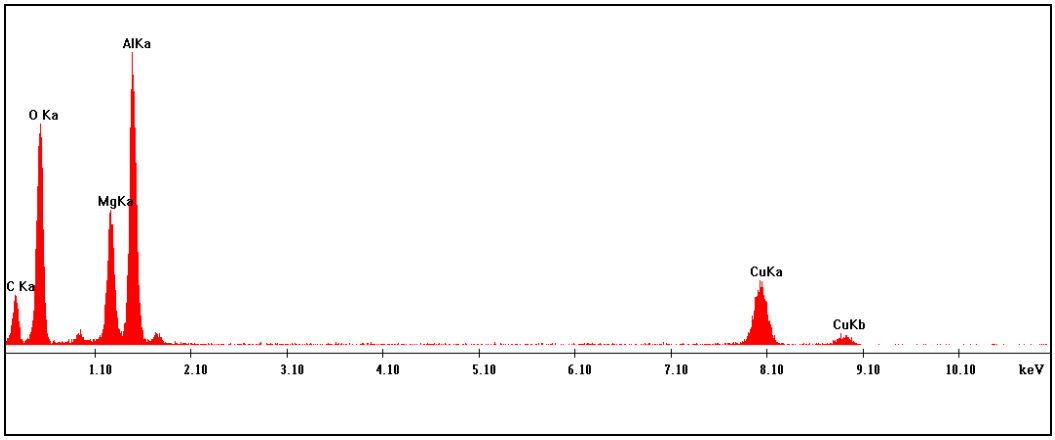

Figure S3. Energy dispersive X-ray spectrum of $MgAl_2O_4$.

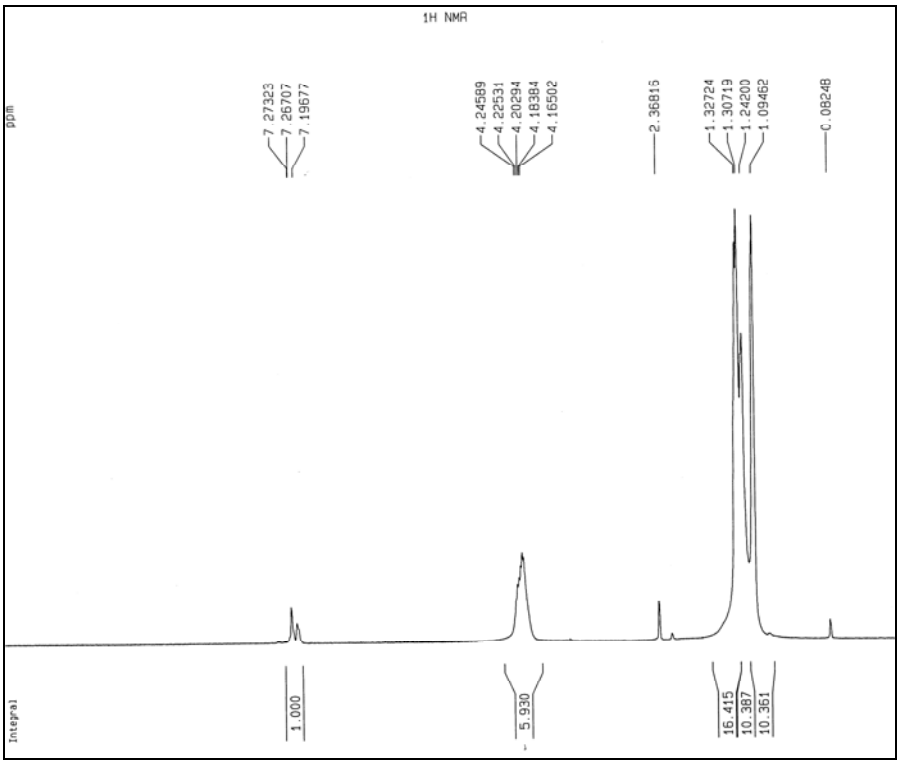

Figure S4. ^{1}HNMR spectrum of **II** in $CDCl_3$.

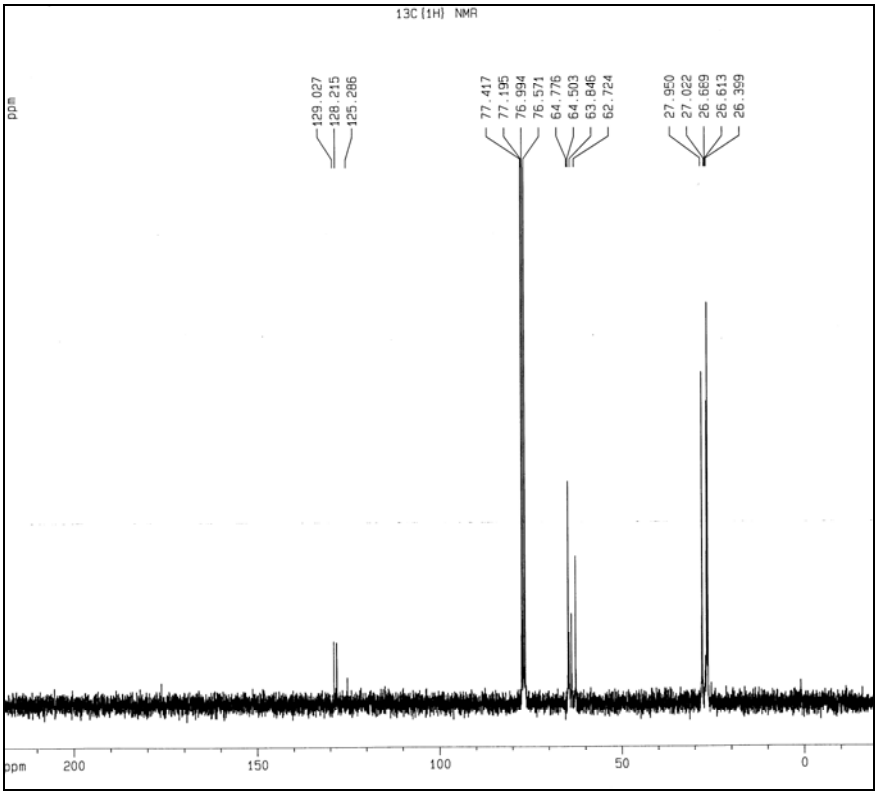

Figure S5. ^{13}CNMR spectrum of **II** in $CDCl_3$.

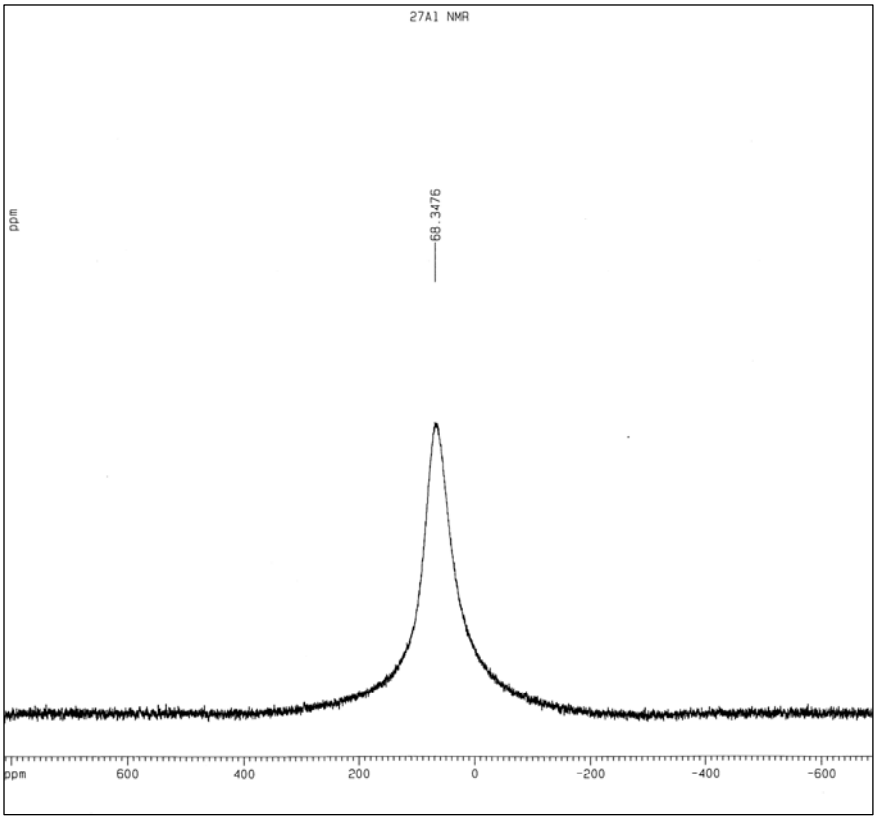

Figure S6. ^{27}AlNMR spectrum of **II** in $CDCl_3$.

Table S1. Crystal data for **II**

Complex	**II**
Empirical formula	$C_{72}H_{168}Al_8Mg_4O_{28}$, C_7H_8
Formula weight	1887.29
Temperature (K)	120(2)
Wavelength (Å)	0.71073
Crystal system	Orthorhombic
Space group	*Pnn*2
a (Å)	26.487(5)
b (Å)	28.262(6)
c (Å)	14.916(3)
α (º)	90.00
β (º)	90.00
σ (º)	90.00
V (Å^3)	11166(4)
Z	4
Absorption coefficient (mm^{-1})	0.158
F(000)	4104
Crystal size (mm)	0.50 × 0.49 × 0. 30
Dc (g cm^{-3})	1.123
θ Range for data	1.70 – 30.72
Reflections collected	34132
Unique reflections [*R*(int)]	27902 (0.0668)
Data/restraints/parameters	27902 / 1 / 1082
Goodness-of-fit on F^2	1.047
Final R indices [$I > 2\sigma(I)$][a]	$R_1 = 0.0689$
	$wR_2 = 0.1741$
R indices (all data)	$R_1 = 0.0881$
	$wR_2 = 0.1951$

[a] $R_1 = \Sigma||F_o|-|F_c||/\Sigma|F_o|$, $wR_2 = [\Sigma(w(F_o^2-F_c^2)^2)/\Sigma w(F_o^2)^2]^{1/2}$