Electronic Supplementary Material (ESI) for RSC Advances.

Electronic effect of *para* substituents of 2-hydroxybenzaldehyde co-ligands in a family of hydrazonato-oxidovanadium(V) complexes

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Electronic Supporting Information (ESI)

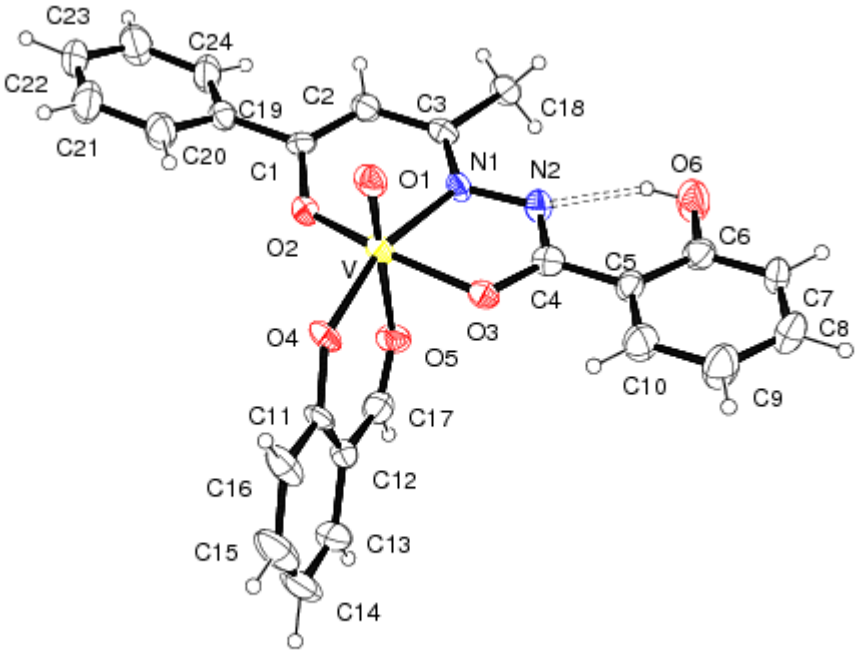


Figure S1: Molecular structure of **5** showing the atom-numbering scheme with ellipsoid at 30% probability. Hydrogen bonds are shown as open bonds.

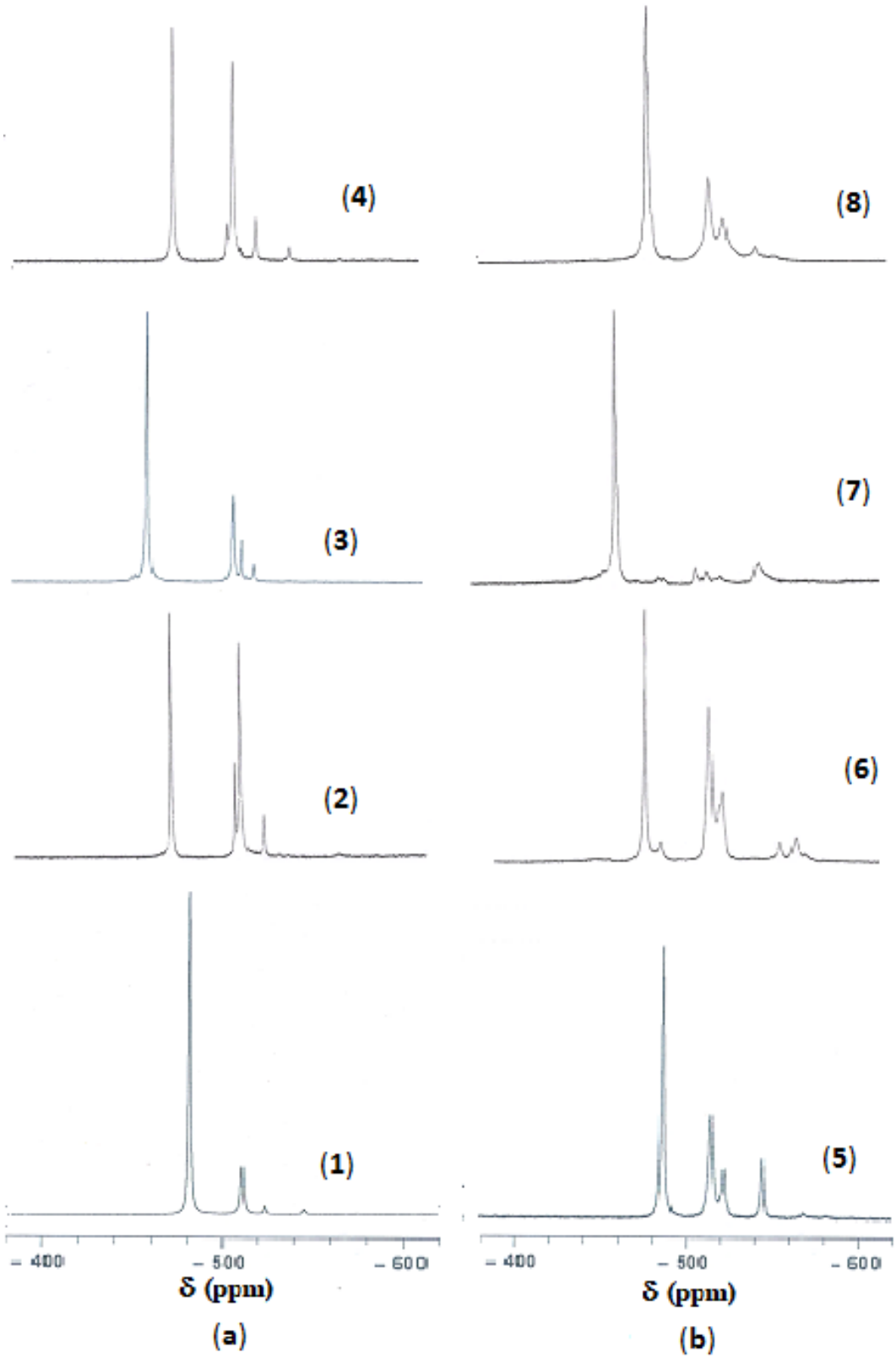


Figure S2: ^{51}V NMR spectra of **1-8** complexes in $CDCl_3$ solution.

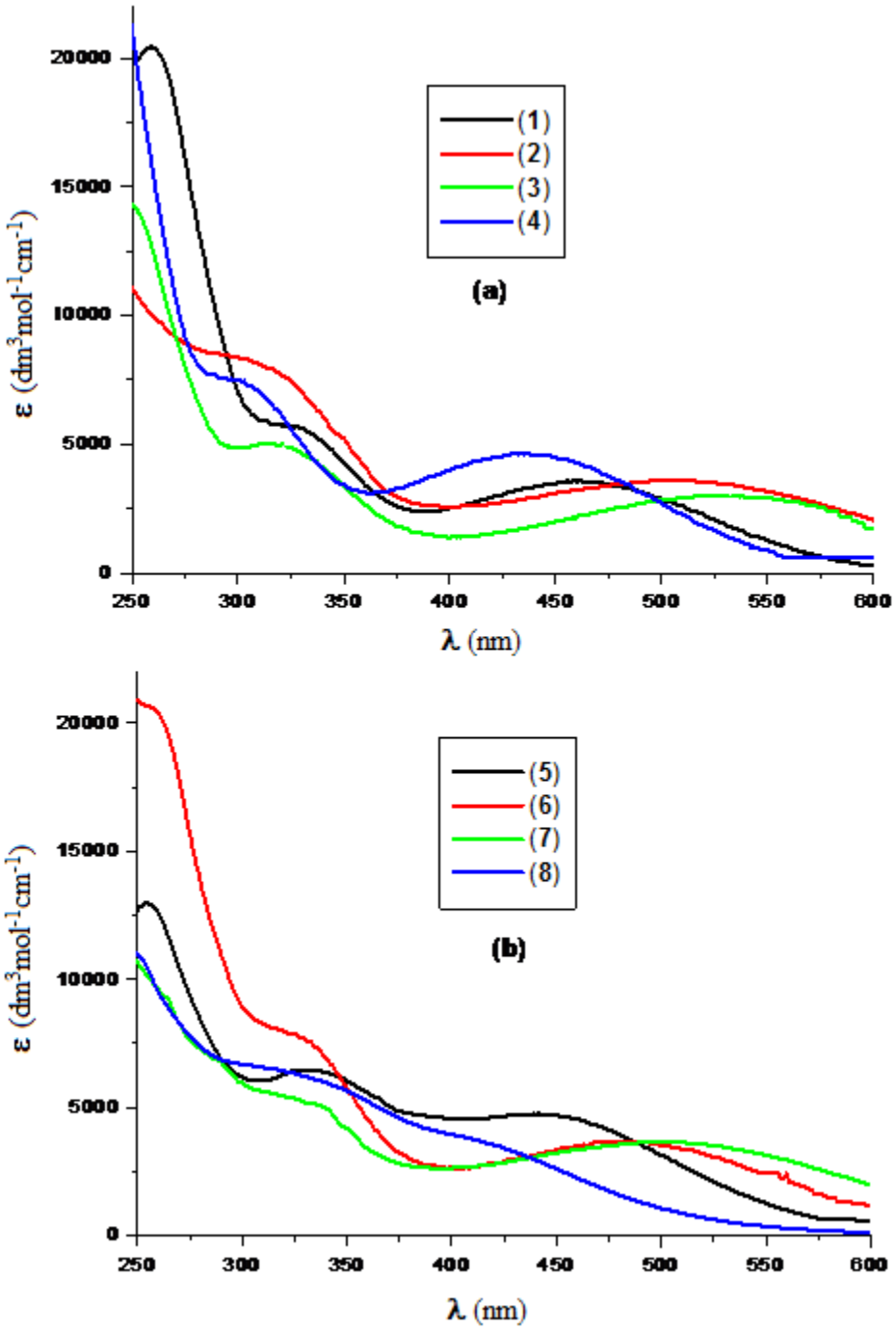


Figure S3: Overley of the electronic spectra of **1**-**8** complexes in CH_2Cl_2 solution.

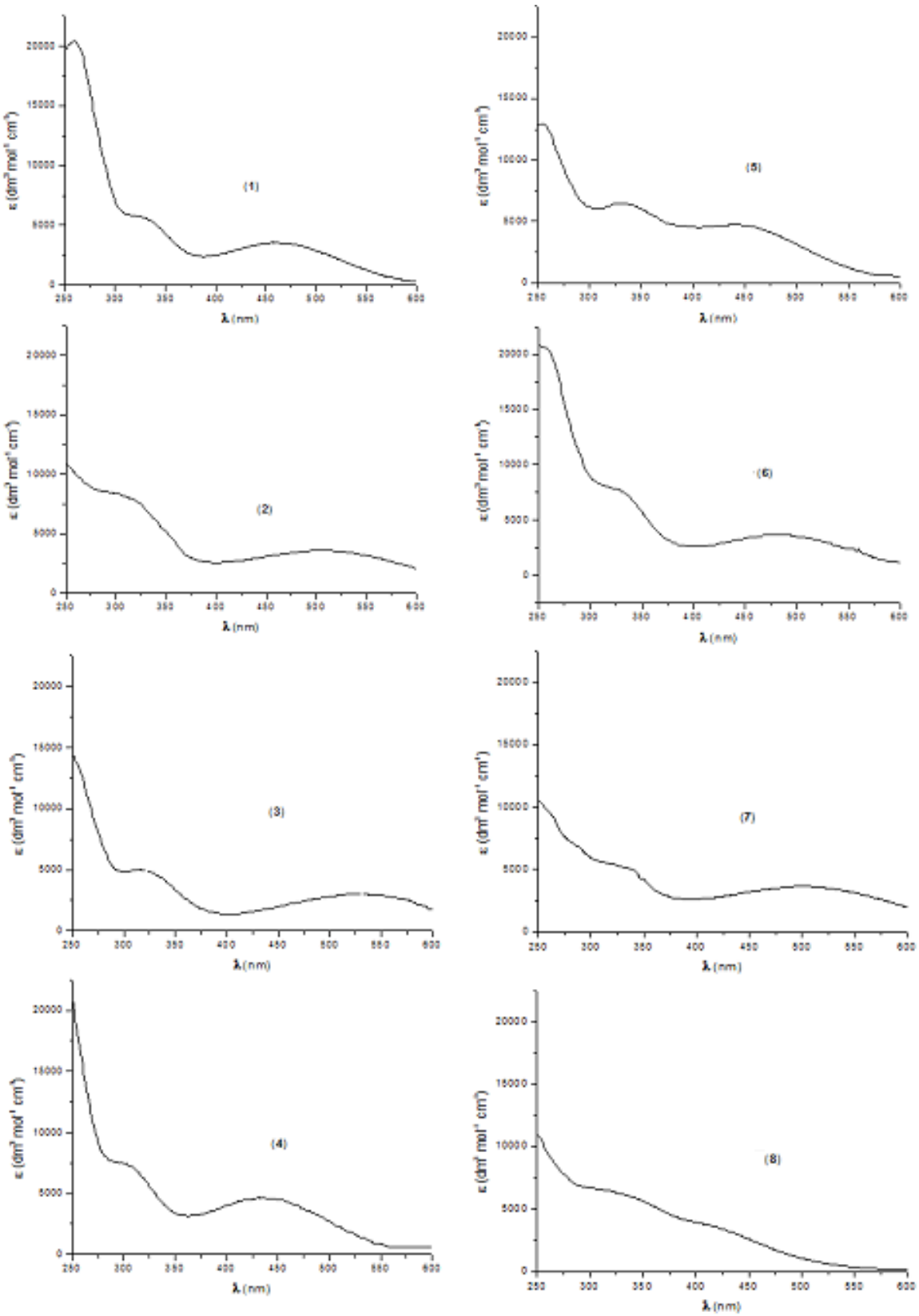


Figure S4: Electronic spectra of **1**-**8** complexes in CH_2Cl_2 solution.

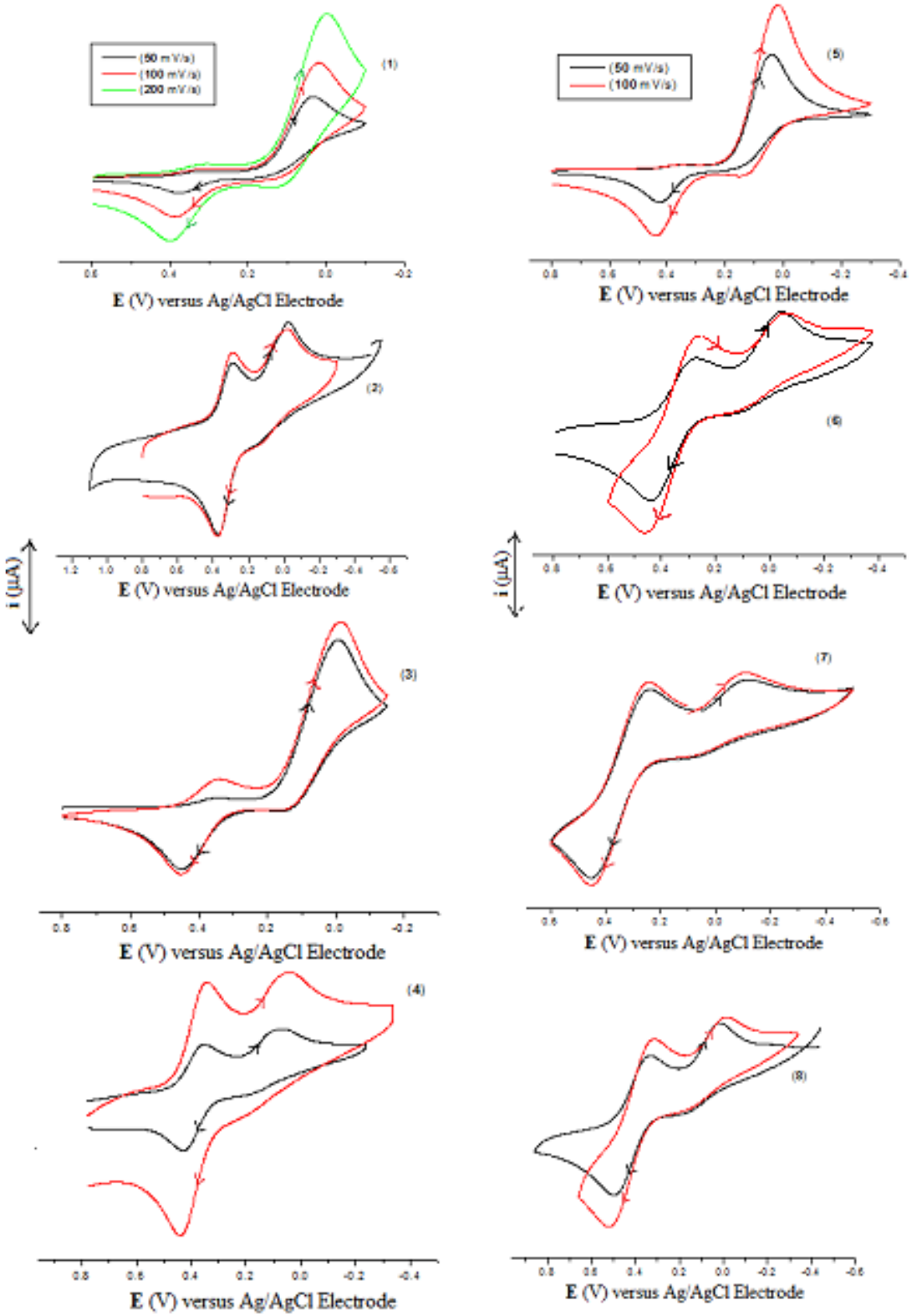


Figure S5: Cyclic voltammogram of **1-8** complexesin CH2Cl2 solution at different scan rate. Concentration of the complexes: ~ 1×10^{-3} mol dm^{-3}; supporting electrolyte: tetrabutylammonium hexafluorophosphate.

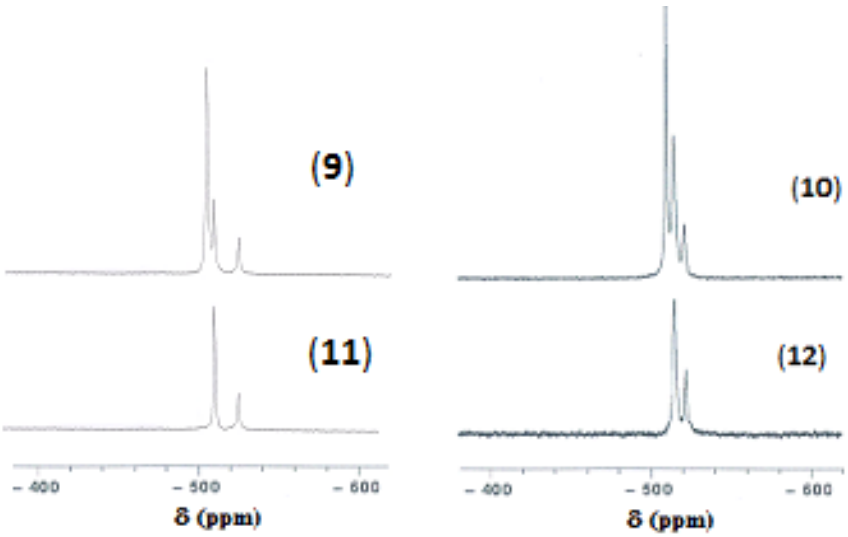


Figure S6: ^{51}V NMR spectra of **9-12** complexes in $CDCl_3$ solution.

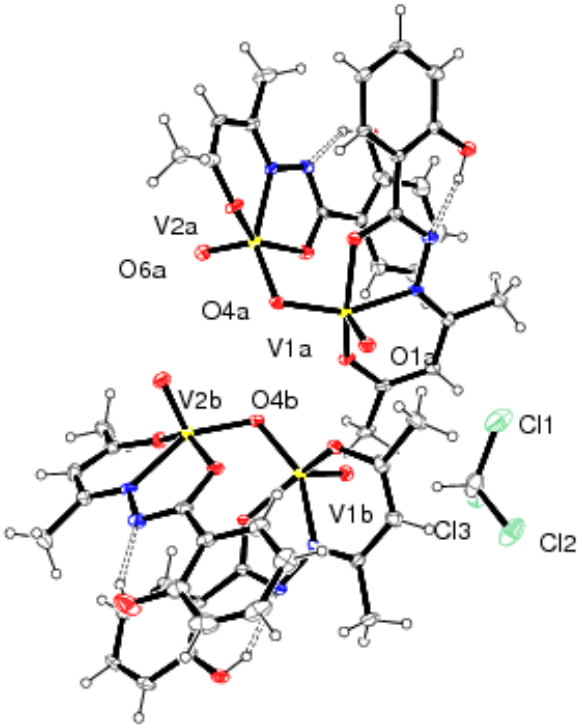
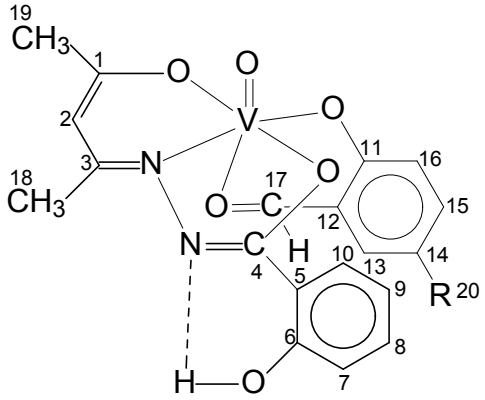
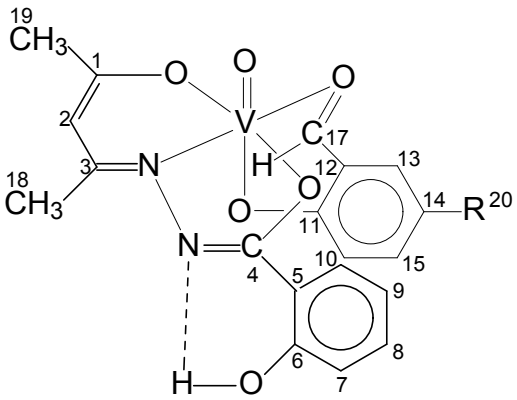


Figure S7: Molecular structure of **11** showing the two molecules in the asymmetric unit with one solvent $CHCl_3$ molecule. Hydrogen bonds shown as dotted lines



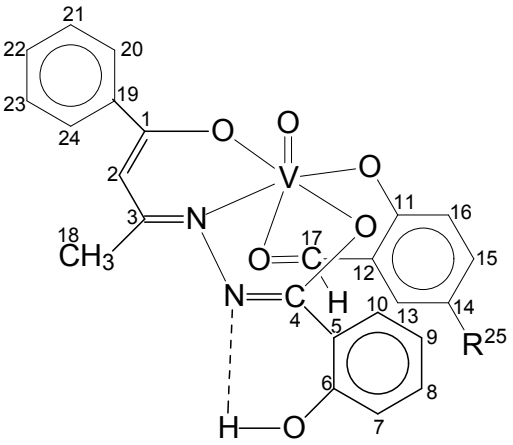
1A-3A



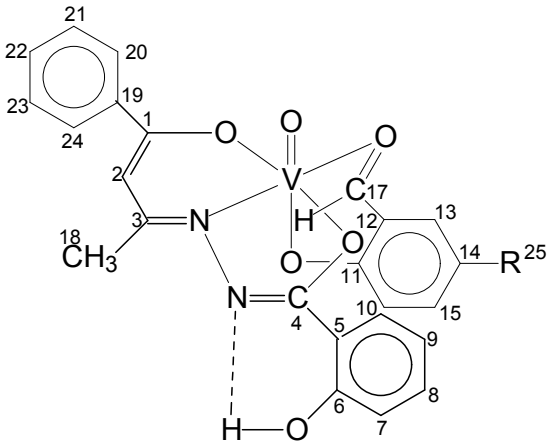
1B-3B

Complex	R
1	H
2	CH_3
3	OCH_3

Scheme S1: Probable gross structure of the two isomeric forms (**A** and **B**) of complexes **1-3** showing the atom-numbering Scheme for ^{1}H NMR spectra.



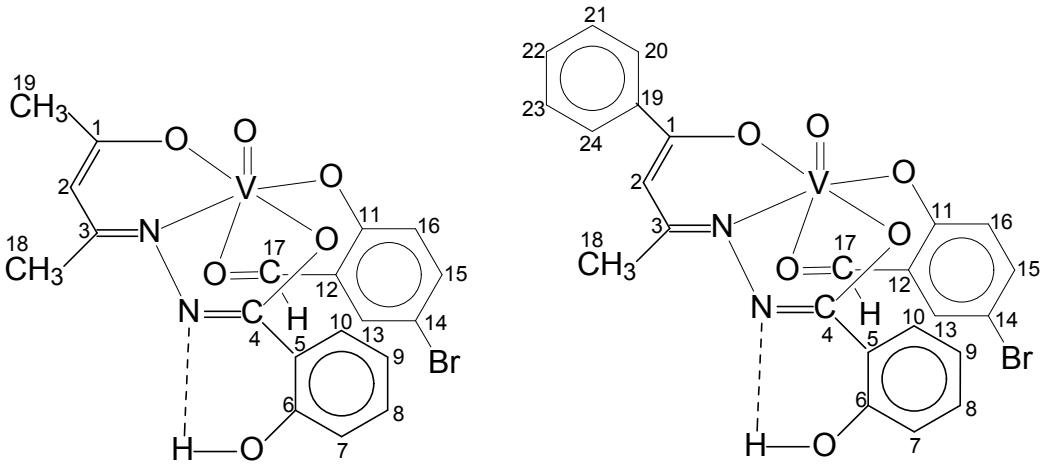
5A-7A



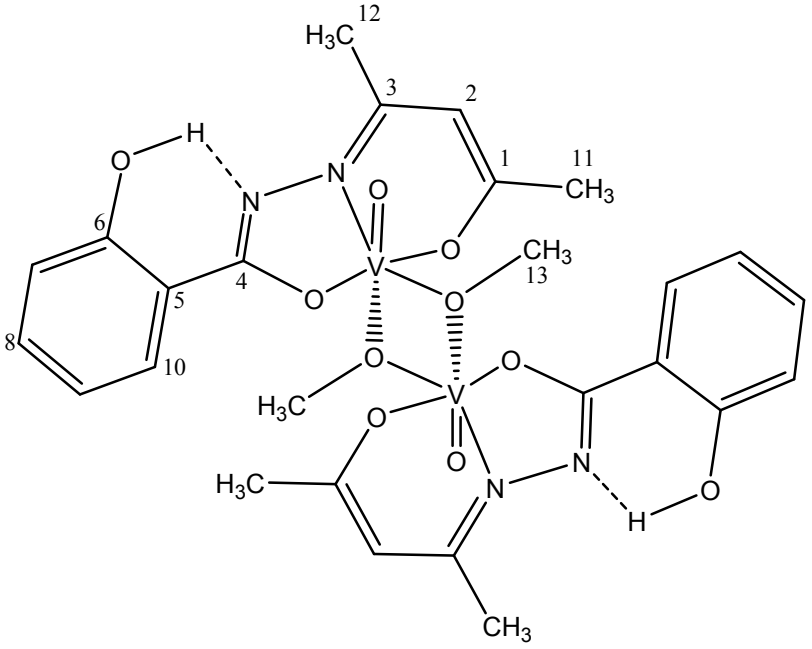
5B-7B

Complex	R
5	H
6	CH_3
7	OCH_3

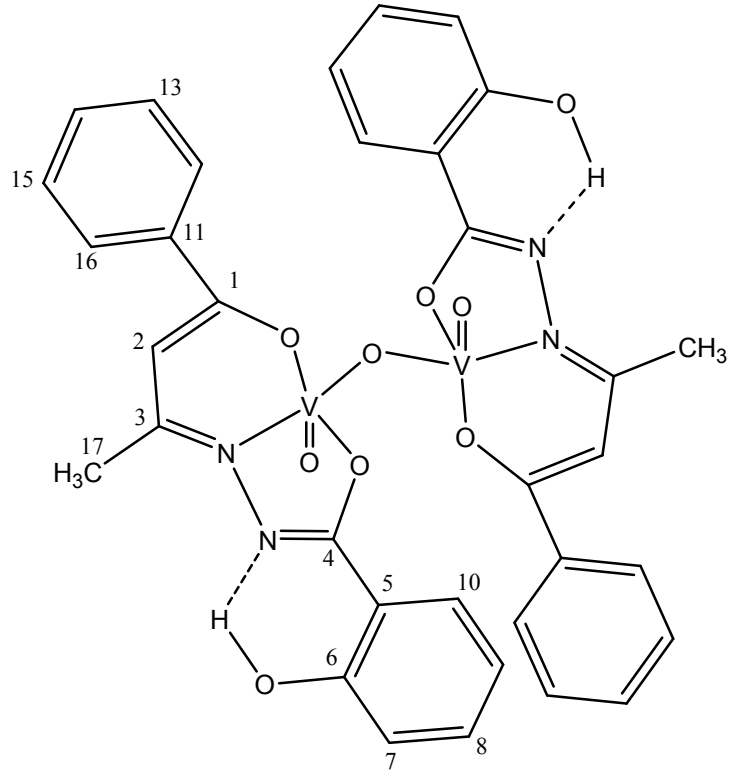
Scheme S2: Probable gross structure of the two isomeric forms (**A** and **B**) of complexes **5-7** showing the atom-numbering Scheme for ^{1}H NMR spectra.



Scheme S3: Probable gross structure of the two isomeric forms (**A** and **B**) of complexes **4** and **8** showing the atom-numbering Scheme for ^{1}H NMR spectra.



Scheme S4: Probable gross structure of **9** showing the atom-numbering Scheme for ^{1}H NMR spectra.



Scheme S5: Probable gross structure of **12** showing the atom-numbering Scheme for ^{1}H NMR spectra.

Table S1

Crystal data and structure determination summary of **1**, **10** and **11** *

	1	**10**	**11**
Empirical formula	$C_{19}H_{17}N_2O_6V$	$C_{36}H_{34}N_4O_{10}V_2$	$C_{24.5}H_{24.5}N_4O_9Cl_{1.5}V_2$
Formula weight	420.29	784.55	674.04
Crystal colour	black	black	black
Crystal system	monoclinic	orthorhombic	triclinic
Space group	$P2_1/c$	$Pca2_1$	$P\bar{1}$
a/Å	11.41(3)	18.5154(18)	11.8887(9)
b/Å	11.09(3)	9.8382(9)	13.9072(11)
c/Å	14.77(4)	19.301(2)	18.0799(14)
α/°	(90)	(90)	108.122(7)
β/°	92.95(4)	(90)	93.759(6)
γ/°	(90)	(90)	90.318(6)
V /Å^3	1866(8)	3515.8(6)	2833.8(4)
Z	4	4	4
ρ_{calc} /g cm^{-3}	1.496	1.482	1.580
μ /mm^{-1}	0.571	0.596	0.859
F(000)	864	992	1372
Data/restraints/parameters	3518/0/256	5345/1/475	12661/0/751
Goodness-of-fit on F^2	1.032	1.030	0.986
R indices, [I>2σ(I)] R1, wR2	0.0466, 0.1240	0.0286, 0.0655	0.0924, 0.1376
R indices (all data): R1, wR2	0.0736, 0.1469	0.0353, 0.0686	0.1696, 0.1763

*Cell Data for **5**, $C_{24}H_{19}N_2O_6V$, M = 482.35, monoclinic, space group $P2_1/n$, a = 13.105(7), b =8.486(4), c = 19.710(10) Å, β = 93.973(15)^o , V = 2186.8(19) Å^3, d_{calc} = 1.465 gcm^{-3}.