Electronic Supplementary Information

In vitro cytotoxicity and catalytic evaluation of dioxidovanadium(V) complexes in azohydrazone ligand environment

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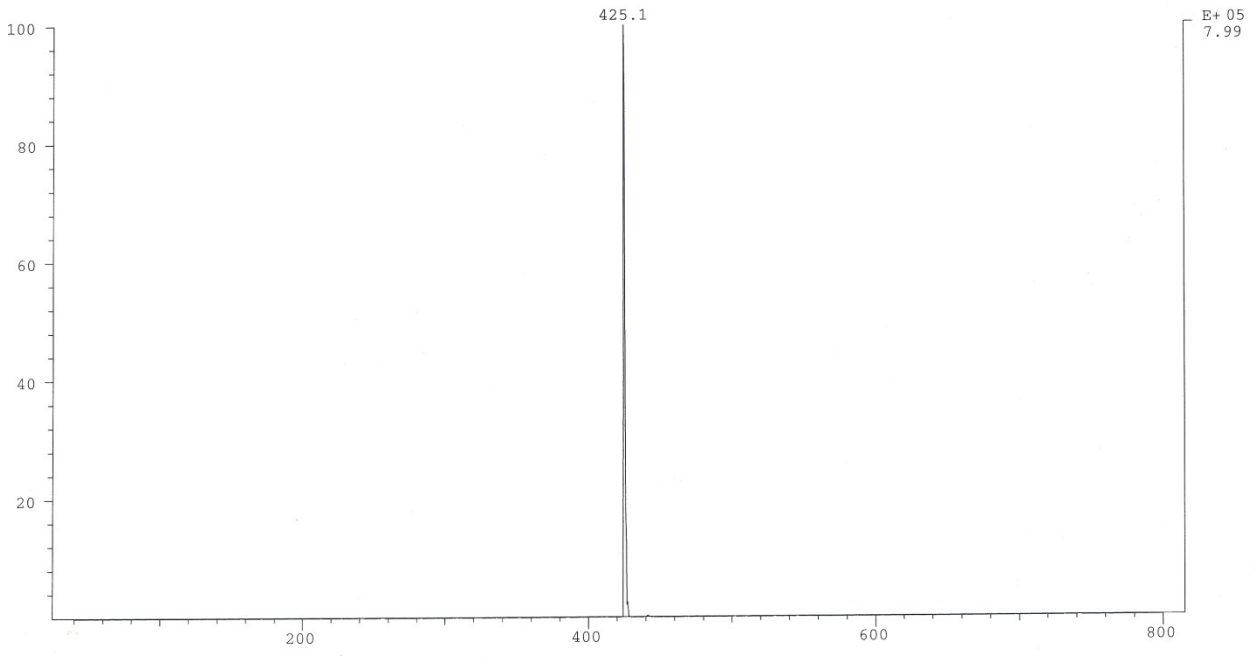

Figure S1. ESI–MS of **1** (100 pmol/µL) in Methanol (recorded in the negative ion mode).

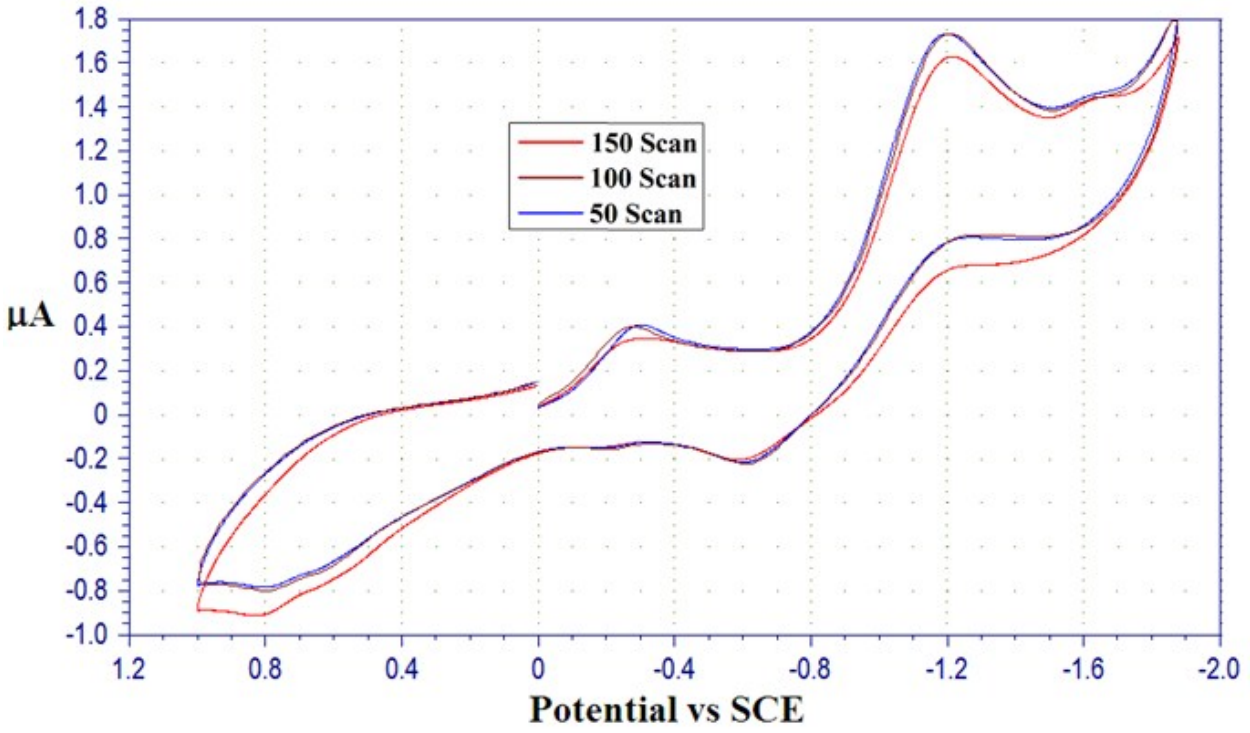

Figure S2. Cyclic Voltammogram of **2** (10^{-3} M) in DMSO.

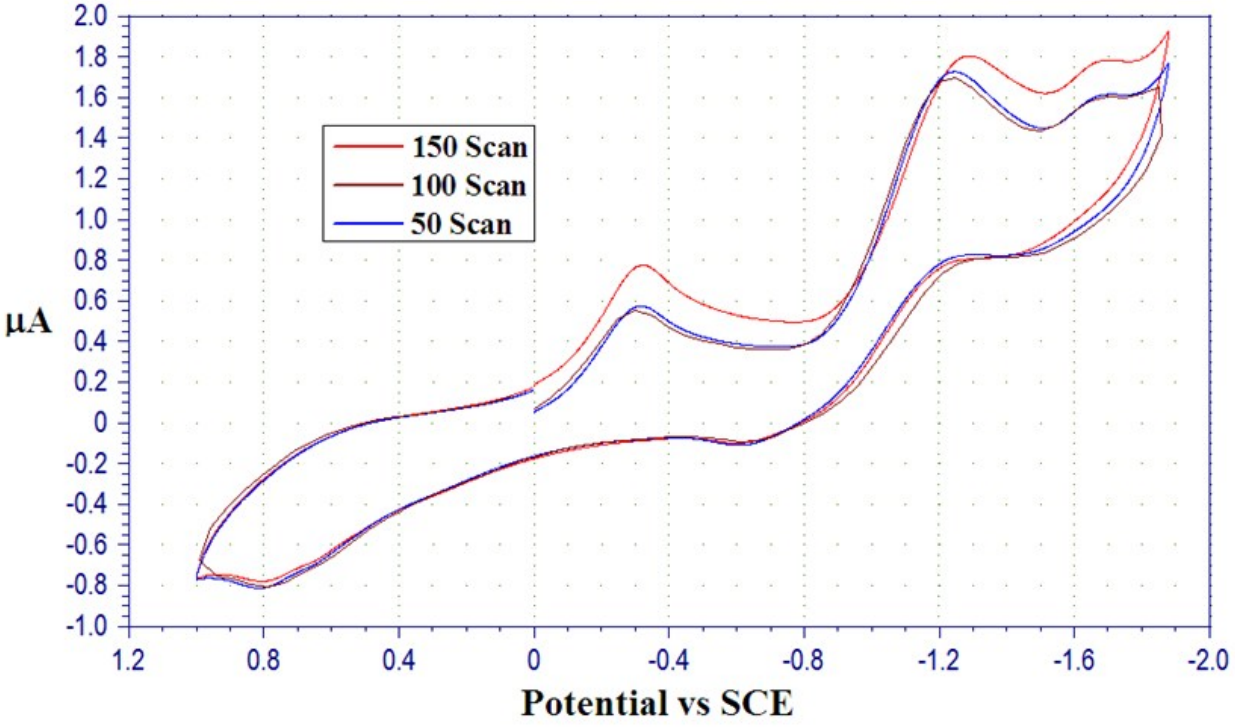

Figure S3. Cyclic Voltammogram of **3** (10^{-3} M) in DMSO.

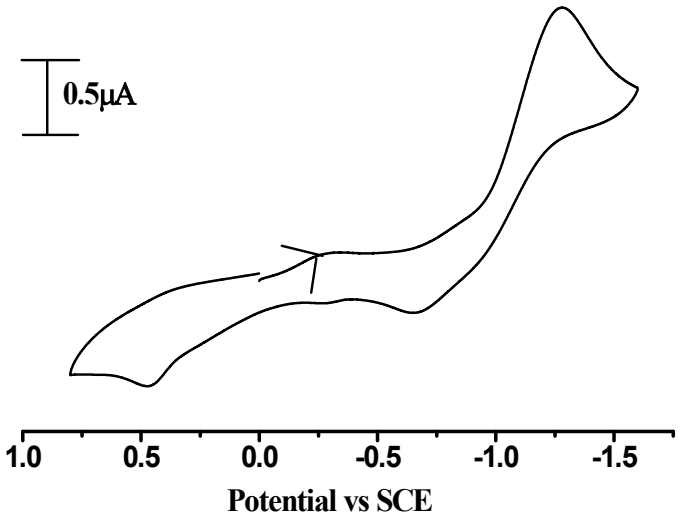

Figure S4. Cyclic Voltammogram of H_2L^1 (10^{-3} M) in DMSO.

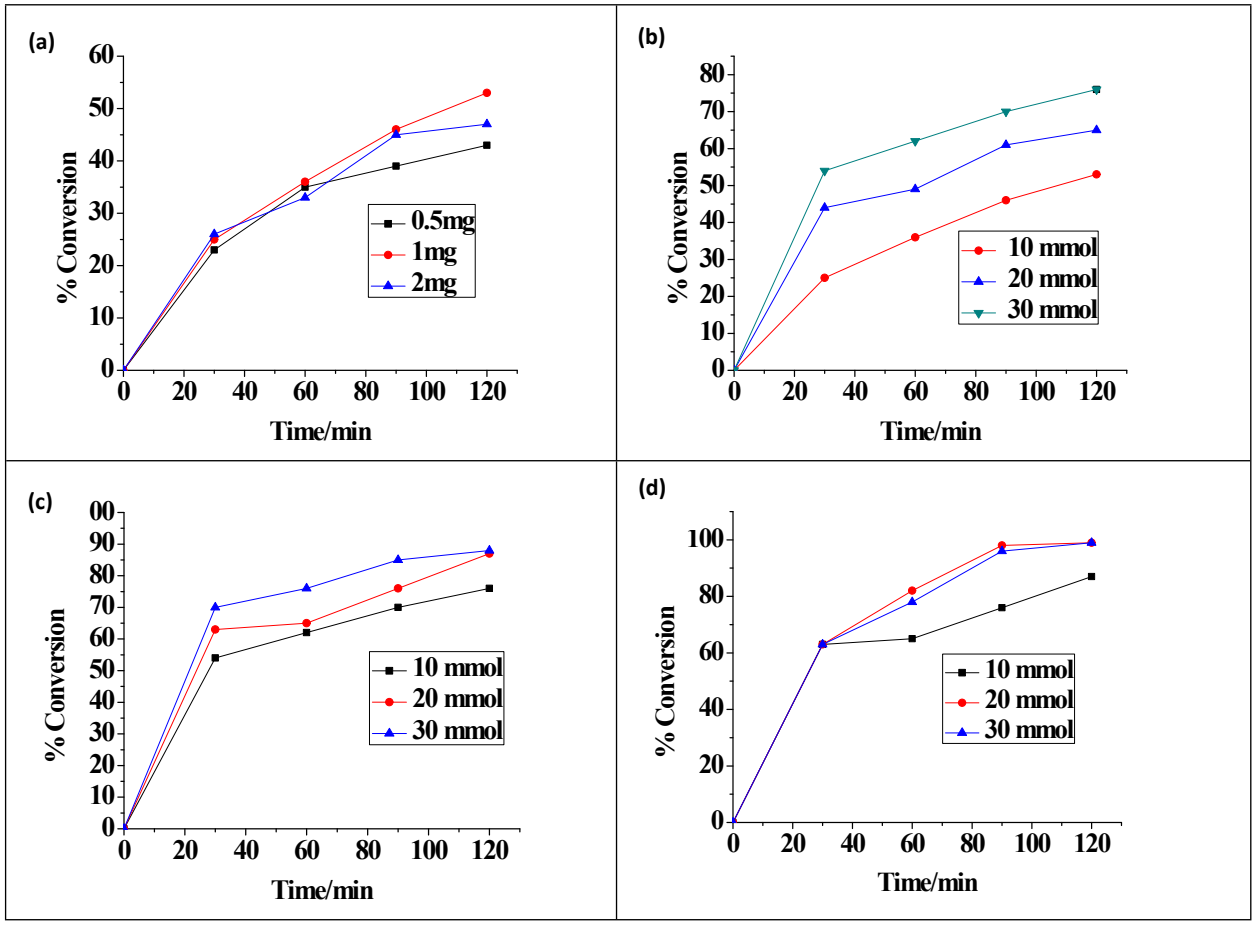

Figure S5. (a) Effect of variation of amount of catalyst on the oxidative bromination of styrene. Reaction conditions: styrene (1.04 g, 10 mmol), 30% aqueous H_2O_2 (10 mmol, 1.13 g), KBr (10 mmol, 1.19 g), and $HClO_4$ (10 mmol, 1.43 g) at room temperature. **(b)** Effect of variation of amount of oxidant (H_2O_2) on the oxidative bromination of styrene. Reaction conditions: styrene (1.04g, 10 mmol), catalyst **2** (1mg, 1.5×10^{-3}), KBr (10 mmol, 1.19 g), and $HClO_4$ (10 mmol, 1.43 g) at room temperature. **(c)** Effect of varying amount of additive (KBr) on the oxidative bromination of styrene. Reaction conditions: styrene (1.04 g, 10 mmol), catalyst **2** (1mg, 1.5×10^{-3}), 30% aqueous H_2O_2 (30 mmol, 3.39 g), and $HClO_4$ (10 mmol, 1.43 g) at room temperature. **(d)** Effect of varying amount of $HClO_4$ on oxidative bromination of styrene. Reaction conditions: styrene (1.04g, 10 mmol), catalyst **2** (1mg, 1.5×10^{-3}), 30% aqueous H_2O_2 (30 mmol, 3.39 g), and KBr (20 mmol, 2.38 g), at room temperature.

Table S1. Conversion, turn over frequency and selectivity parameters for various catalysts for the oxidative bromination of styrene.

Entry	Catalyst	Conv. [%]	TOF [h^{-1}][a]	Selectivity [%]	
				2-bromo-1-phenylethanol	1-phenylethane-1,2-diol
1	**1**	99	3235	25	75
2	**2**	99	3300	29	71
3	**3**	99	3561	26	74
4	Without catalyst	35		24	76

[a] TOF values calculated at 2 h of reaction time.

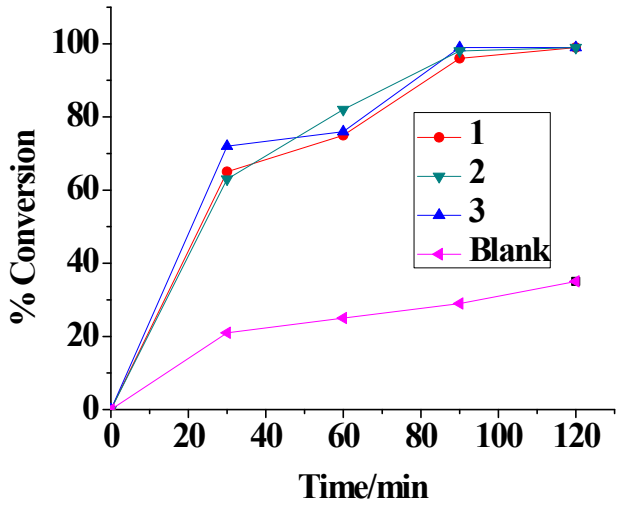

Figure S6. Plot representing conversion of Styrene in the presence of **1**–**3**.

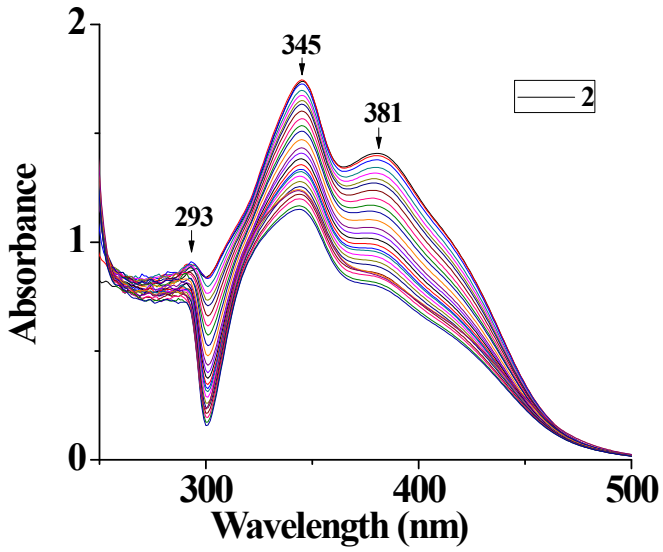

Figure S7. Plots representing the Spectral changes during titration of **2** with H_2O_2. Spectra were obtained after successive addition of one drop portion 30% H_2O_2 (0.108 g, 0.95 mmol) dissolved in 5 mL of MeCN to 25 mL of 3.75×10^{-5} M solution of **2** in MeCN.

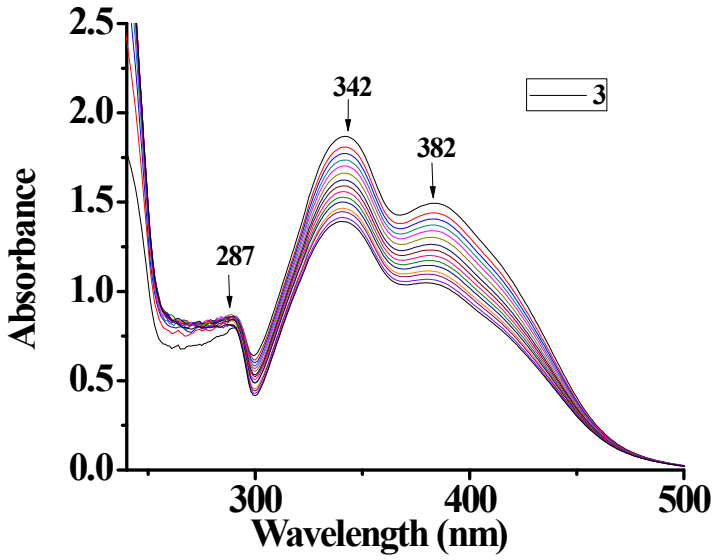

Figure S8. Plots representing the Spectral changes during titration of **3** with H_2O_2. Spectra were obtained after successive addition of one drop portion 30% H_2O_2 (0.108 g, 0.95 mmol) dissolved in 5 mL of MeCN to 25 mL of 2.3×10^{-5} M solution of **3** in MeCN.