Supplementary Information for

Hydrophobicity Enhances Membrane Affinity and Anti-Cancer Effects of Schiff Base Vanadium(V) Catecholate Complexes

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Table of Contents

1. NMR Spectra

1.1 ^{1}H NMR Spectra of [VO(Hshed)(dtb)] in D_2O, d_6-DMSO, and in a Series of Reverse Micelles.

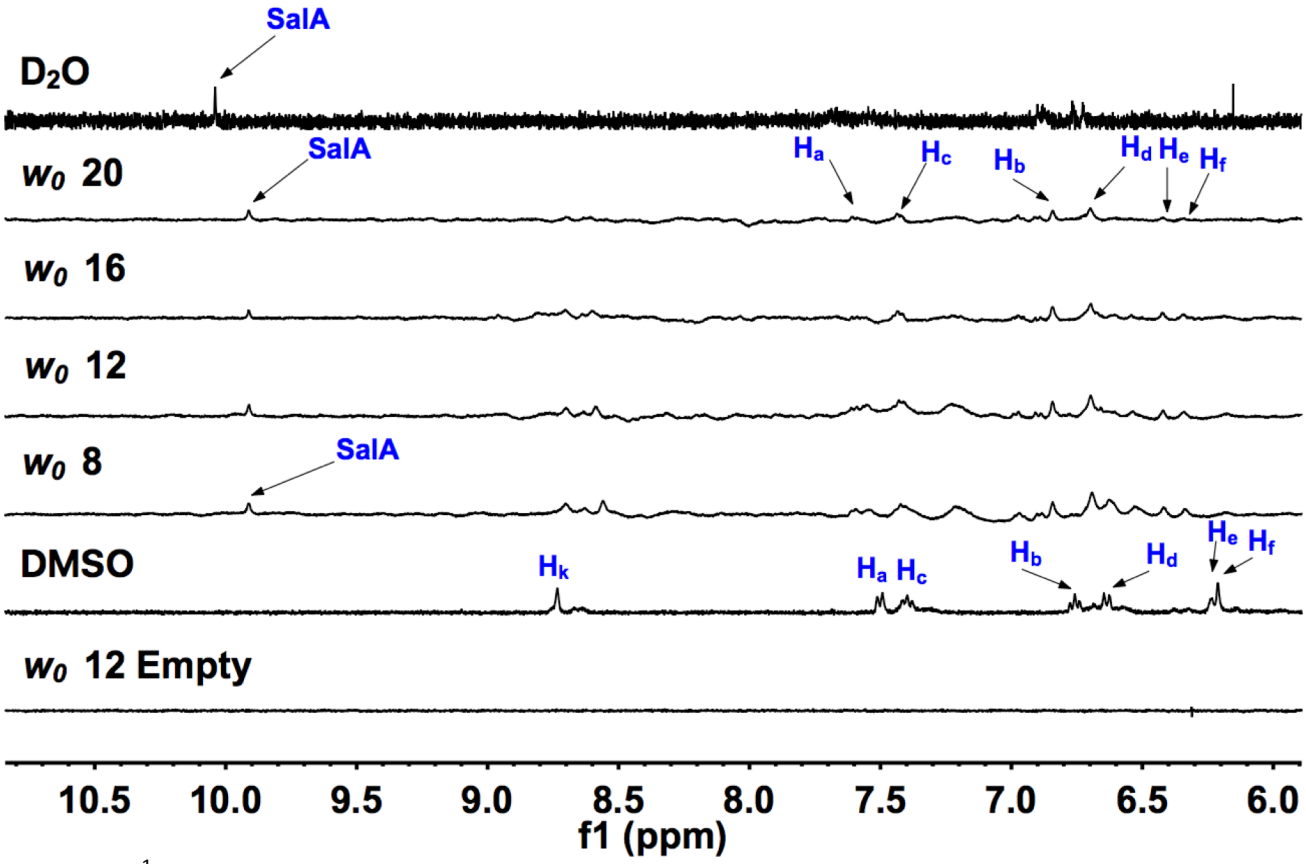

Figure S1: ^{1}H NMR spectra of [VO(Hshed)(dtb)] in d_6-DMSO, *iso*-octane, and in a series of RMs (w_0 = 8, 12, 16, and 20 prepared from 0.750 M AOT/*iso*-octane stock solution). The spectrum in D_2O was recorded after 60 min. and the spectra in RMs was recorded after 50 min. once equilibrium had been established. Proton labeling scheme is found in Figure 1. SalA = Salicylaldehyde.

1.2 ^{1}H NMR Spectra of [VO(Hshed)(cat)] in D_2O, d_6-DMSO, and in a Series of Reverse Micelles.

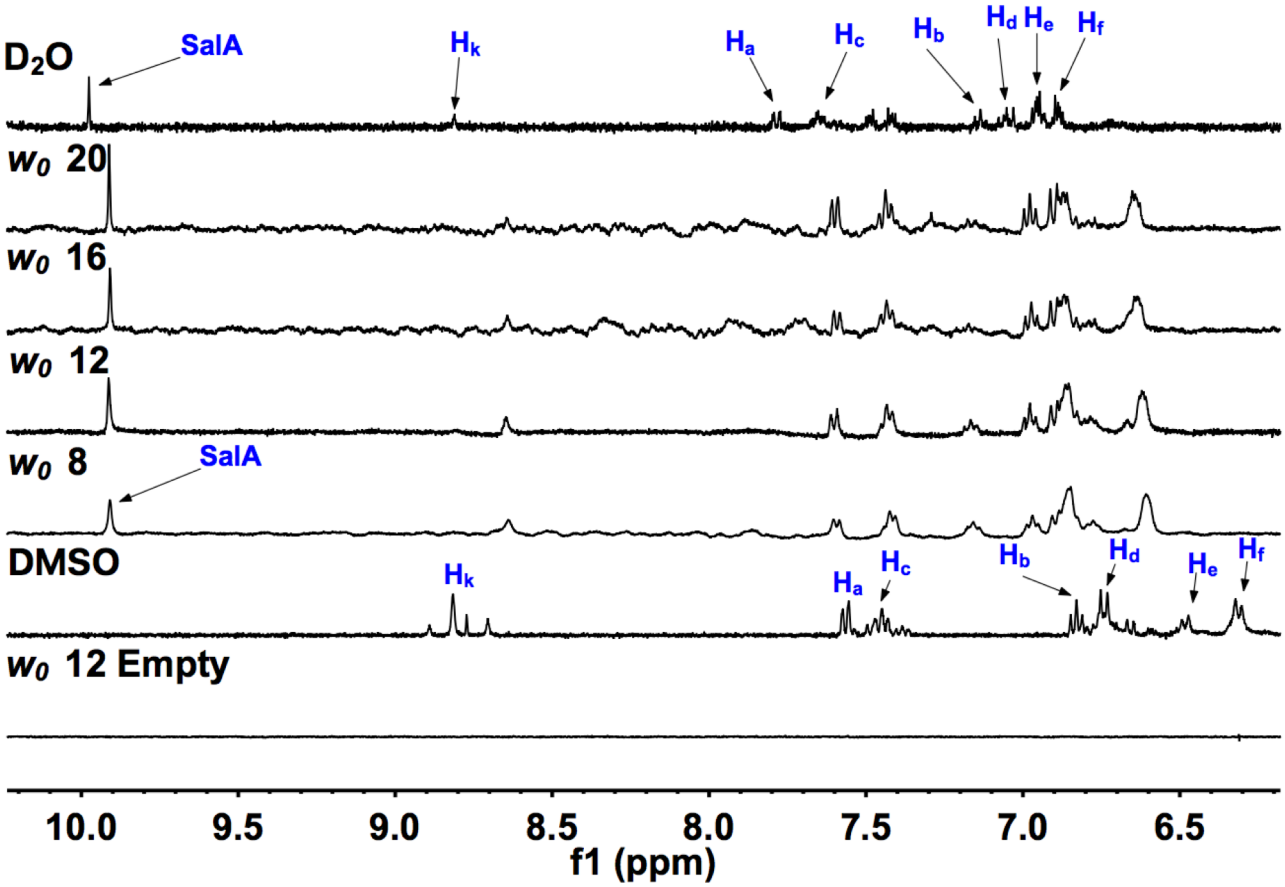

Figure S2: ^{1}H NMR spectra of [VO(Hshed)(cat)] in d_6-DMSO, D_2O, and in a series of RMs (w_0 = 8, 12, 16, and 20 prepared from 0.750 M AOT/*iso*-octane stock solution). The spectrum in D_2O was recorded after 50 min. and the spectra in RMs was recorded after 40 min. once equilibrium had been reached. Proton labeling scheme is found in Figure 1. SalA = Salicylaldehyde.

2. Dynamic Light Scattering Data for $[V(O)_2(Hshed)]$, H_2shed, $[VO(Hshed)(cat)]$, H_2cat, $[VO(Hshed)(dtb)]$, and H_2dtb.

Table S1. Dynamic Light Scattering measurements on $[V(O)_2(Hshed)]$, H_2shed, $[VO(Hshed)(cat)]$, H_2cat, $[VO(Hshed)(dtb)]$, and H_2dtb in 0.1 M AOT/isooctane RMs.

	$w_0 = 12$	$w_0 = 20$
N(probe)/N(micelle)	2.3	1.4
$[V(O)_2(Hshed)]$ r_h[a] (nm)	3.9 (± 0.3)	4.5 (± 0.3)
PDI $[V(O)_2(Hshed)]$	0.33 (±0.16)	0.52 (±0.17)
H_2shed r_h[a] (nm)	4.0 (± 0.3)	4.3 (± 0.3)
PDI H_2shed	0.20 (±0.08)	0.60 (±0.20)
$[VO(Hshed)(cat)]$ r_h[a] (nm)	3.5 (±0.3)	4.3 (± 0.4)
PDI $[VO(Hshed)(cat)]$	0.27 (±0.12)	0.46 (±0.18)
H_2cat r_h[a] (nm)	3.8 (±0.2)	4.4 (± 0.3)
PDI H_2cat	0.43 (±0.16)	0.23 (±0.09)
$[VO(Hshed)(dtb)]$ r_h[a] (nm)	3.6 (±0.5)	4.1 (±0.3)
PDI $[VO(Hshed)(dtb)]$	0.45 (±0.08)	0.16 (±0.05)
H_2dtb r_h[a] (nm)	3.8 (±0.2)	4.3 (±0.3)
PDI H_2dtb	0.22 (±0.08)	0.48 (±0.11)
Blank r_h[a] (nm)	3.6 (± 0.3)	4.6 (± 0.3)
PDI Blank	0.42 (±0.17)	0.50 (±0.19)
Lit. r_h[b] (nm)	3.7	4.4

[a]Radius measurements were taken from the volume distribution
[b] Ref. 1.

Interpretation of DLS measurements on $[V(O)_2(Hshed)]$, H_2shed, $[VO(Hshed)(cat)]$, H_2cat, $[VO(Hshed)(dtb)]$, and H_2dtb Containing AOT/isooctane RMs. DLS established the formation of RMs. Samples of $[V(O)_2(Hshed)]$, H_2shed, $[VO(Hshed)(cat)]$, H_2cat, $[VO(Hshed)(dtb)]$, or H_2dtb RMs were prepared using 0.10 M AOT/isooctane and the results are shown in Table S1. The average radius obtained from w_0 sizes 12, and 20 compared favorably with those reported previously in the literature.[1, 2, 3] These results were observed with RMs prepared with and without $[V(O)_2(Hshed)]$, H_2shed, $[VO(Hshed)(cat)]$, H_2cat, $[VO(Hshed)(dtb)]$, or H_2dtb. These results showed that RMs formed, and that the presence of $[V(O)_2(Hshed)]$, H_2shed, $[VO(Hshed)(cat)]$, H_2cat, $[VO(Hshed)(dtb)]$, or H_2dtb did not significantly affect the size or stability of the RM.

3. References:

1. A. Maitra, *J. Phys. Chem.*, 1984, **88**, 5122-5125.
2. H. F. Eicke and J. Rehak, *Helv. Chim. Acta*, 1976, **59**, 2883-2891.
3. M. Zulauf and H. F. Eicke, *J. Phys. Chem.*, 1979, **83**, 480-486.