Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

One-pot synthesis of vanadium-containing silica SBA-3 materials and their catalytic activity for propene oxidation

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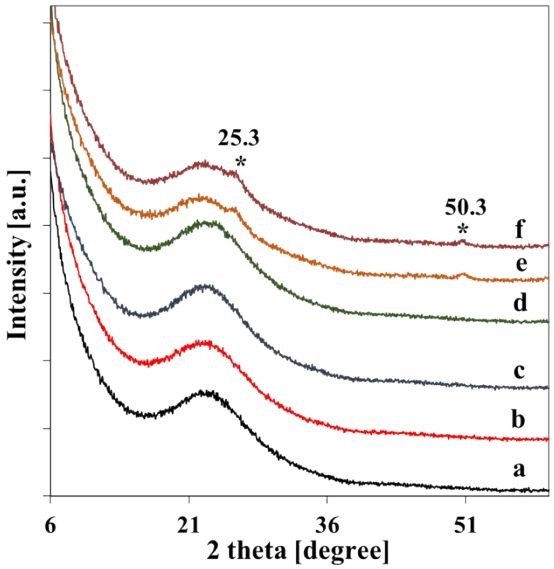

Fig. S1 XRD patterns of calcined samples: (a) V_{s1}-SBA-3, (b) V_{s2}-SBA-3, (c) V_{s3}-SBA-3, (d) V_{m1}-SBA-3, (e) V_{m2}-SBA-3, (f) V_{m3}-SBA-3.

Table 1S Results of the UV-vis spectra data for V-SBA-3 samples.

Sample	pH	V content [%]	Distribution of V-nanospecies							
			~250 nm		~280 nm		~320 nm		~400 nm	
			area %	wt. %	area %	wt. %	area %	wt. %	area %	wt. %
Vs_1-SBA-3	<1	0.48	60.5	0.29	35.9	0.17	2.5	0.01	1.1	<0.01
Vs_2-SBA-3	2.2	0.54	62.3	0.34	32.5	0.17	3.4	0.02	1.8	0.01
Vs_3-SBA-3	3.1	0.49	61.3	0.30	32.7	0.16	2.8	0.01	3.2	0.02
Vm_1-SBA-3	<1	0.26	63.8	0.17	29.0	0.07	4.3	0.01	2.9	<0.01
Vm_2-SBA-3	2.2	5.27	30.2	1.59	45.3	2.39	10.8	0.57	13.7	0.72
Vm_3-SBA-3	3.1	5.97	31.1	1.86	29.2	1.74	12.6	0.75	27.1	1.62

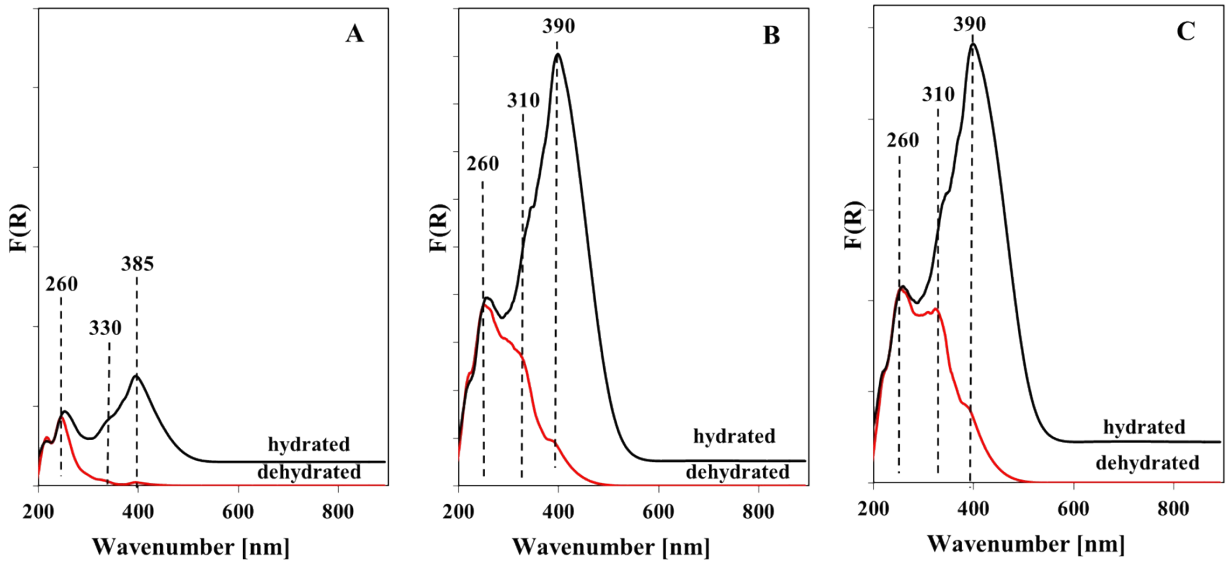

Fig. S2 UV-vis spectra of hydrated and dehydrated samples: V_{m1}-SBA-3 (A), V_{m2}-SBA-3 (B), V_{m3}-SBA-3 (C).

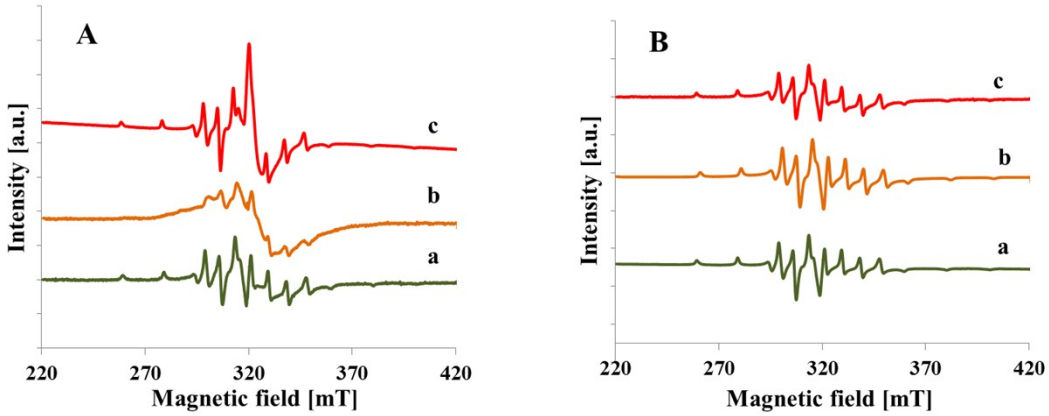

Fig. S3 ESR spectra of as synthesized (A) and calcined (B) samples: (a) V_{m1}-SBA-3, (b) V_{m2}-SBA-3, (c) V_{s2}-SBA-3.

Table 2S EPR parameters of vanadium species in indicated samples.

Sample	$g_{\parallel}$	$A_{\parallel}$ [Gs]	$g_{\perp}$	$A_{\perp}$ [Gs]	g_{iso}
Vm_1-SBA-3A	1.928	202	1.981	77	1.963
Vm_1-SBA-3	1.929	203	1.980	77	1.963
Vm_2-SBA-3A	not resolved	-	-	-	1.960
Vm_2-SBA-3	1.918	203	1.970	77	1.953
V_{s2}-SBA-3A	1.934	201	1.984	76	1.967
V_{s2}-SBA-3	1.929	202	1.980	78	1.963

A- samples as-synthesized