

Supplementary Information

Table S1. Structural and textural parameters of calcined TiSBA-15 catalysts

Catalysts	$n_{\text{H}_2\text{O}}/n_{\text{HCl}}$ (molar ratio)	$n_{\text{Si}}/n_{\text{Ti}}$		a_0 (Å)	A_{BET} (m ² /g)	V_p (cm ³ /g)	d_p (Å)	$T_w = a_0 - d_p$ (Å)
		Gel	Product ^a					
TiSBA-15(6)	295	6	18.9	125.0	950	1.09	87.8	37.2
TiSBA-15(15)	295	15	33.4	122.0	990	1.09	88.0	34.0
TiSBA-15(20)	295	20	42.0	121.6	1015	1.09	88.0	33.6
TiSBA-15(30)	295	30	59.4	119.1	970	1.08	87.8	31.3
TiSBA-15(60)	295	50	88.6	118.8	915	1.07	87.6	31.2
TiSBA-15(6) ^b	-	-	21.4	124.0	960	1.10	87.8	36.2
TiSBA-15(60) ^c	-	-	88.6	118.7	918	1.07	87.6	31.1
TiMCM-41(40) ^d	-	40	42.0	48.6	1081	0.80	30.9	17.7
Washed TiSBA-15(6) ^e	-	-	21.4	124.0	967	1.10	87.8	36.2

a_0 , unit cell parameter; A_{BET} , Specific surface area; V_p , pore volume; d_p , pore diameter, T_w , wall thickness

^a $n_{\text{Si}}/n_{\text{Ti}}$ ratios of products are determined by ICP-AES

^{b, c} The recyclable catalysts were used for 3rd run in the oxidation of TMP-OH

^d The catalyst was synthesized under basic direct hydrothermal method

^e Washed mesostructured catalyst was prepared before using in the oxidation of TMP-OH

Table S2: Oxidation of TMP-OH with various mesoporous titanium silicate catalysts

Catalyst	Ti loading (wt%)	Surface area (m ² /g)	Pore diameter (nm)	TMP-OH conversion (%)	TMB=O selectivity (%)	TOF (min ⁻¹)	Reference
Ti, Si catalyst ^a	1.43	1288	3.1	100	100	2.3	6a
Ti-MMM-2 ^b	1.89	976	3.1	100	76	3.0	6b and c
Ti/Ti-MMM-2	6.13	548	3.0	99	96	1.9	6b
Washed TiSBA-15(6)	4.67	967	8.7	100	>99	3.4	Present study

^a The catalyst was synthesized by EISA method

^b The catalyst was synthesized by hydrothermal method

^c The catalyst was synthesized by post-grafting method

The catalysts were synthesized by pH-aDH method

Reference

6. (a) I. D. Ivanchikova, M. K. Kovalev, M. S. Mel'gunov, A. N. Shmakov and O. A. Kholdeeva, *Catal. Sci. Technol.*, 2014, **4**, 200-207 (b) O. A. Kholdeeva, I. D. Ivanchikova, M. Guidotti, C. Pirovano, N. Ravasio, M. V. Barmatova and Y. A. Chesalov, *Adv. Synth. Catal.*, 2009, **351**, 1877 (c) O. A. Kholdeeva, I. D. Ivanchikova, M. Guidotti, N. Ravasio, M. Sgobba and M. V. Barmatova, *Catal. Today*, 2009, **141**, 330.

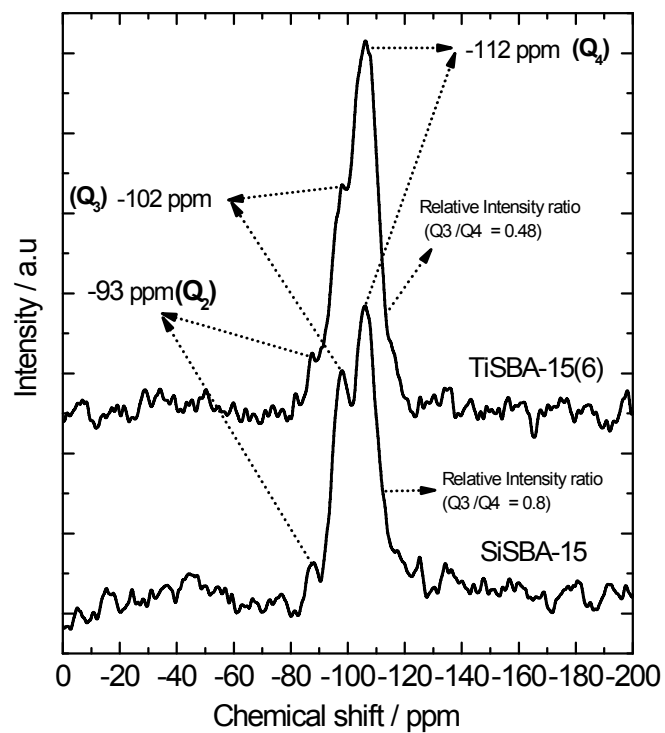


Figure S1. ^{29}Si MAS NMR spectra of calcined SiSBA-15 and TiSBA-15(6)

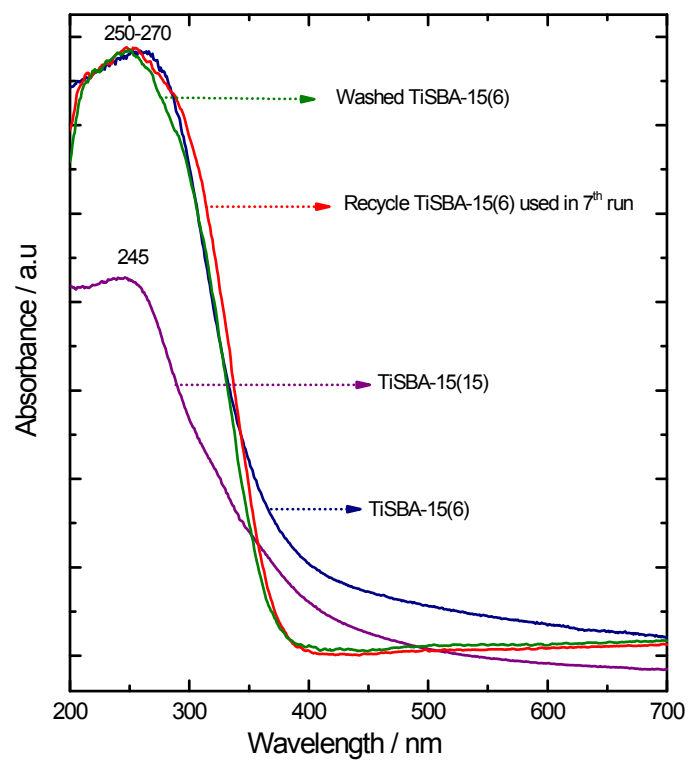


Figure S2. UV-vis DR spectra of calcined /recycle /washed TiSBA-15 catalysts

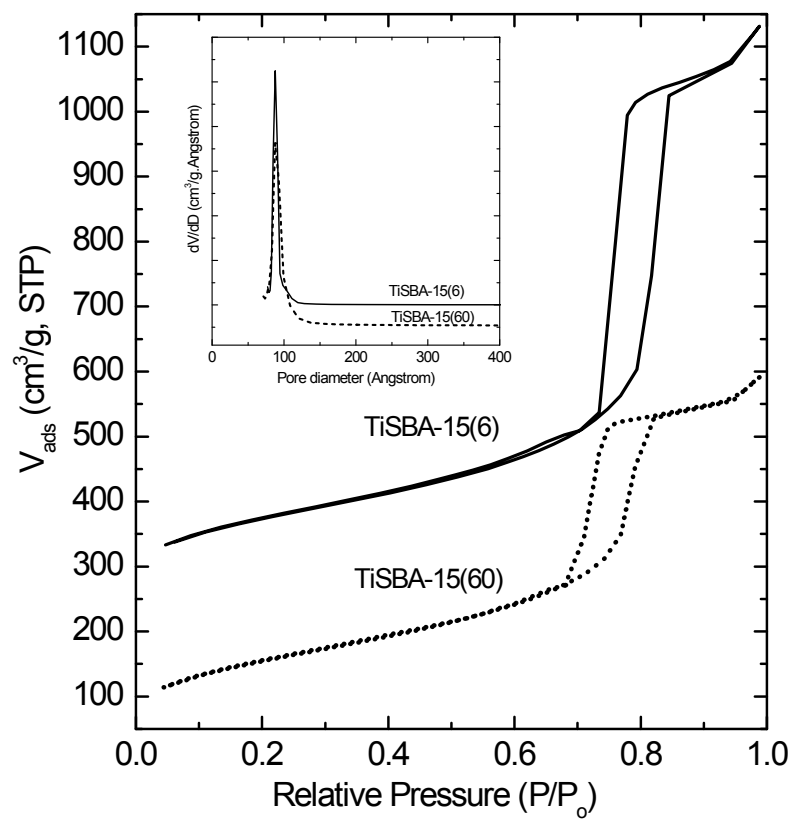


Figure S3: Nitrogen adsorption isotherms of calcined TiSBA-15 catalysts

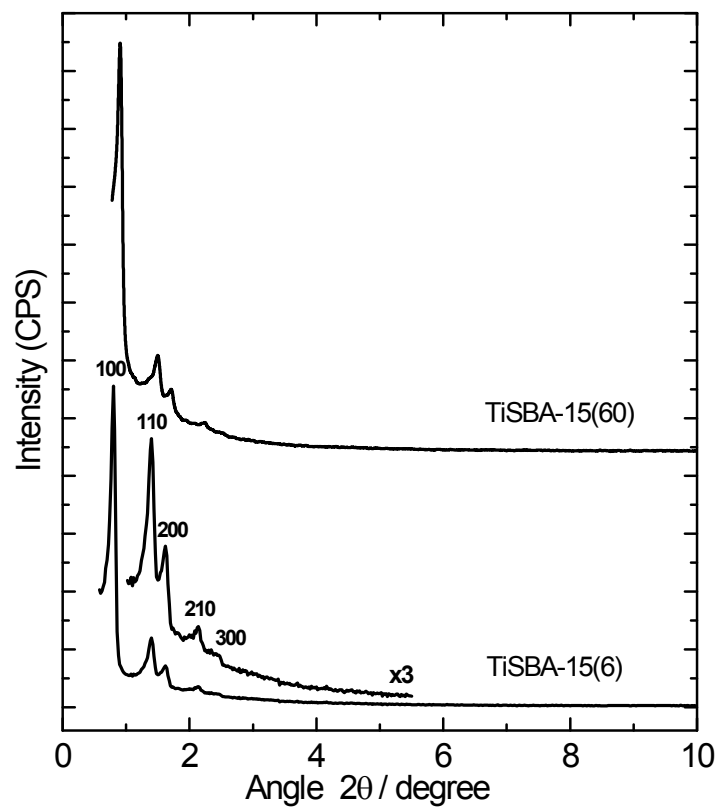


Figure S4. XRD powder patterns of calcined TiSBA-15 catalysts