Supplementary information

Table SI1.	Additional	composition,	synthetic	variables	and	porous	propertie	s of spray	dried
silica source	es, parent ze	eolites and of	a composi	ite materia	1.				

	SiO ₂ /P	Zeolite/SiO ₂	Slurry conc.	$V_{\sf pore}{}^{\sf a}$	V _{micro} b	S _{meso} ^b	S_{BET}^{c}
	[g g ⁻¹]	[g g ⁻¹]	[wt.%]	[cm ³ g ⁻¹]	[cm ³ g ⁻¹]	$[m^2 g^{-1}]$	[m ² g ⁻¹]
Ludox AS-40	-	-	9	0.15	0.01	143	150
Ludox HS-30	-	-	9	0.19	0	95	95
A ^d	-	-	-	0.29	0.15	67	419
A-HS-30	-	1	9	0.18	0.06	107	250
A-HS-30P	1.3	1.75	9	0.33	0.08	131	332
B ^d	-	-	-	0.24	0.14	64	410
BM ^d	-	-	-	0.48	0.13	273	574
FER ^d	-	-	-	0.22	0.09	30	373
FER-SiP	1.33	1.75	9	0.31	0.08	59	253
FER-SiP2 ^e	1.33	1.75	26	0.34	0.08	64	256
USY ^d	-	-	-	0.41	0.30	68	801
USY-SiP	1.33	1.75	9	0.42	0.17	91	510
USY-SiP2 ^e	1.33	1	26	0.46	0.13	96	419
MOR ^d	-	-	-	0.30	0.21	41	521
MOR-SiP	1.33	1.75	9	0.34	0.10	68	315
MOR-SiP2 ^e	1.33	1	26	0.41	0.08	85	292

^a V_{pore} at $p/p_0 = 0.99$. ^b *t*-plot method. ^c BET method. ^d Not spray dried prior to calcination. ^e The nozzle diameter was 2.2 mm and the drying chamber had additional insulation. All samples were calcined at 773 K for 6 h (1 K min⁻¹ heating ramp)



Figure SI1. Nitrogen sorption isotherms and BJH pore size distribution plots of sample A composites produced with Ludox HS-30 colloidal silica.



Figure SI2. N₂-sorption data and representative SEM images for SiP2 composites based on USY, ferrierite (FER), and mordenite (MOR).



Figure SI3. Deconvolution of NH₃-TPD profiles for the samples investigated.

Table SI2. Position and distribution of weak (peak 1) and strong (peak 2) acid sites determined by deconvolution of the NH₃-TPD profiles.

	Pe	eak 1	Peak 2			
Sample	Position (K)	Distribution (%)	Position (K)	Distribution (%)		
В	603	7.9	719	92.1		
BM	575	17.6	700	82.4		
BM-SiP	575	23.1	689	76.9		
BM-SiP2	571	27.7	677	72.3		



Figure SI4. NH₃ TPD profile of the mixture obtained by mechanical mixing of an alkaline treated ZSM-5 zeolite with Si/Al ratio of 40 (BM) and Ludox AS-40 silica in a weight ratio of 1:1.