Electronic Supplementary Material (ESI) for Inorganic Chemistry Frontiers.

Table S1 Physicochemical properties of Sn-Beta samples

Sample	Pore volume ($cm^3\ g^{-1}$)			SSA[c] ($m^2\ g^{-1}$)	
	V_{total}	V_{micro}[a]	V_{meso}[b]	S_{BET}	S_{ext}[a]
Sn-Beta-200-AIE-cal	0.40	0.13	0.27	578	255
Sn-Beta-200-DC	0.23	0.11	0.12	388	117
Sn-Beta-150-AIE-cal	0.33	0.14	0.19	577	252
Sn-Beta-150-DC	0.27	0.12	0.15	416	124

[a] Calculated by *t*-plot method

[b] $V_{meso}=V_{total} - V_{micro}$

[c] Specific surface area (SSA) was determined by N_2 adsorption at 77 K.

Table S2 ^{29}Si MAS NMR spectra deconvolution for different Sn-Beta zeolites

Sn-Beta-150-F			Sn-Beta-200		
δ (ppm)	attribution	area (%)	δ (ppm)	attribution	area (%)
-	-	-	-94.9	Q^2	5.58
-101.4	Q^3	4.79	-103.0	Q^3	24.37
-104.6	Q^4	7.22	-111.6	Q^4	70.04
-108.0		13.77			
-111.7		48.29			
-115.5		25.33			

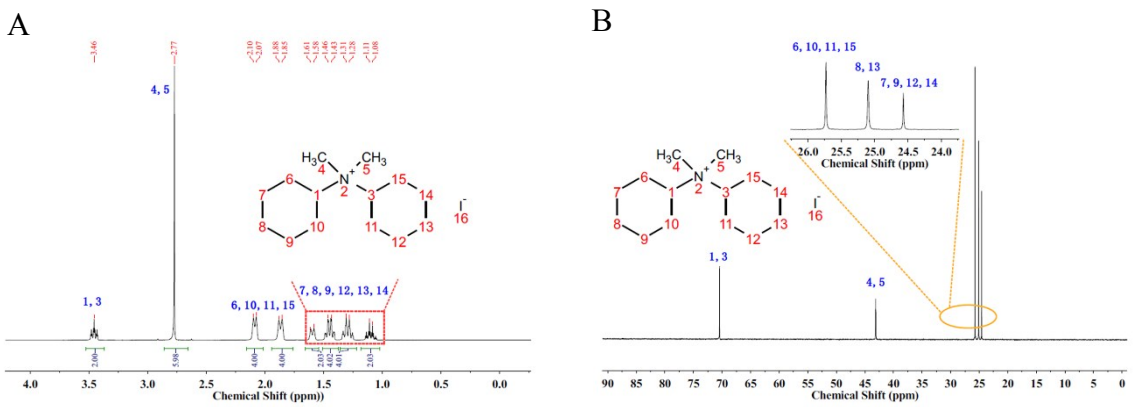

Figure S1 ^{1}H (A) and ^{13}C (B) NMR spectra of *N*-cyclohexyl-*N,N*-dimethylcyclohexanaminium iodide

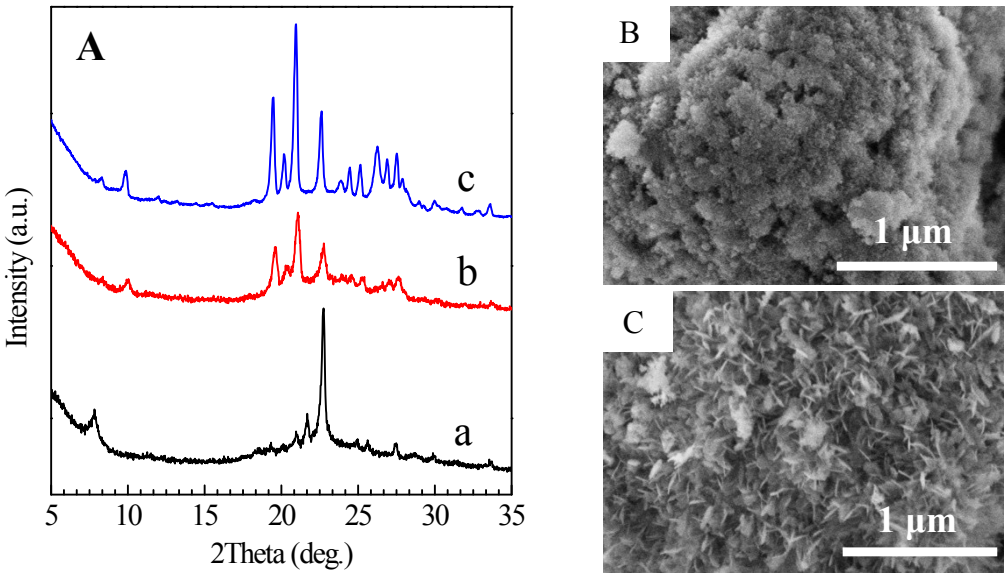

Figure S2 XRD patterns (A) of the samples crystallized at 413 K (a), 423 K (b) and 433 K (c). SEM images of the samples crystallized at 423 K (B) and 433 K (C). Other crystallization conditions: 1 SiO_2 : 0.5 M_2Cy_2OH : 0.01 $SnCl_4$: 0.05 NaOH : 22 H_2O; 5 wt% seed; time, 14 d.

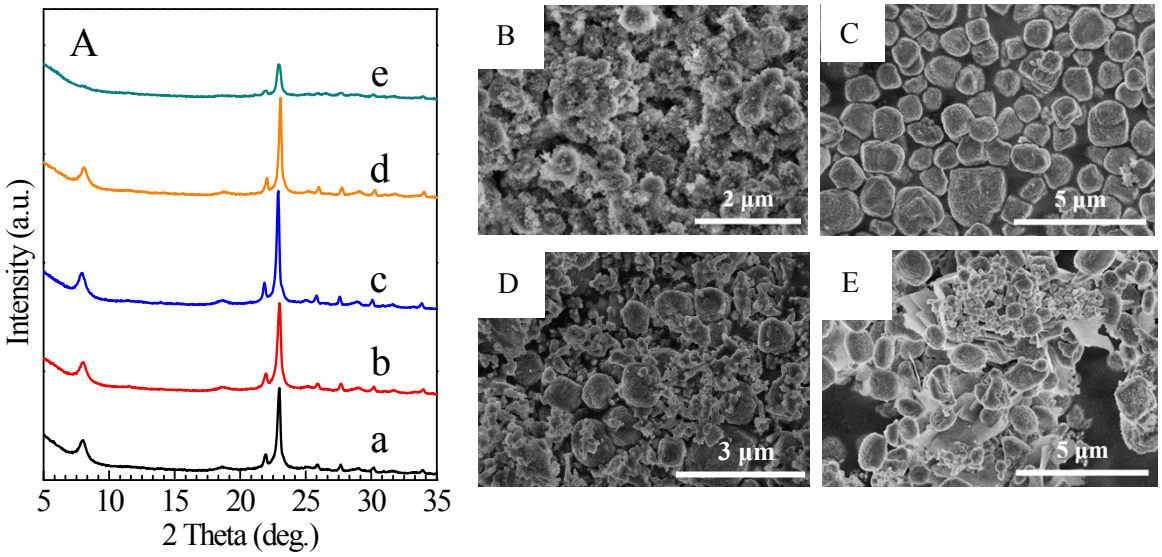

Figure S3 XRD patterns (A) of the samples crystallized with a Na/Si ratio of 0.04 (a), 0.05 (b), 0.08 (c), 0.10 (d) and 0.15 (e), respectively. SEM images of the samples crystallized with a Na/Si ratio of 0.05 (B), 0.08 (C), 0.10 (D) and 0.15 (E), respectively. Other crystallization conditions: 1 SiO_2 : 0.5 M_2Cy_2OH : 0.01 $SnCl_4$: (0.04 - 0.15) NaOH : 22 H_2O; 5 wt% seed; temp., 413 K; time, 14 d.

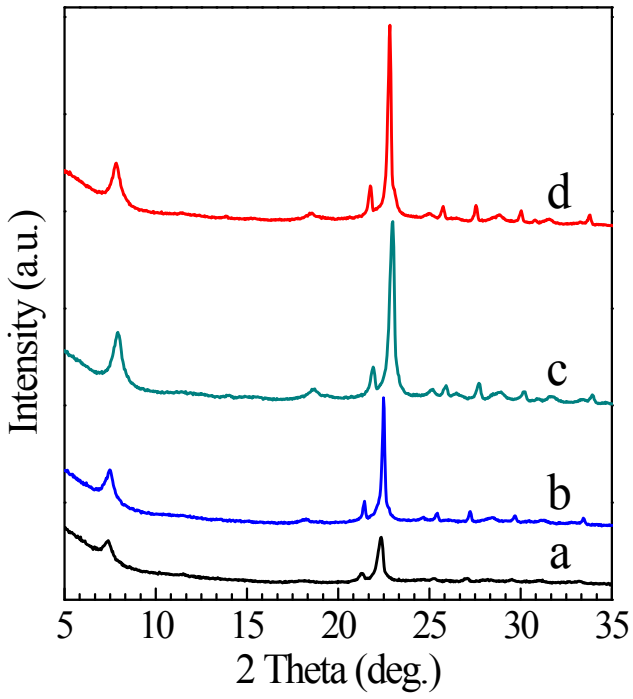

Figure S4 XRD patterns of the samples crystallized with a H_2O/Si ratio of 19 (a), 15 (b), 10 (c), 7 (d), respectively. Other crystallization conditions: 1 SiO_2 : 0.5 M_2Cy_2OH : 0.01 $SnCl_4$: 0.08 NaOH : (7 - 19) H_2O; 5 wt% seed; temp., 413 K; time, 7 d.

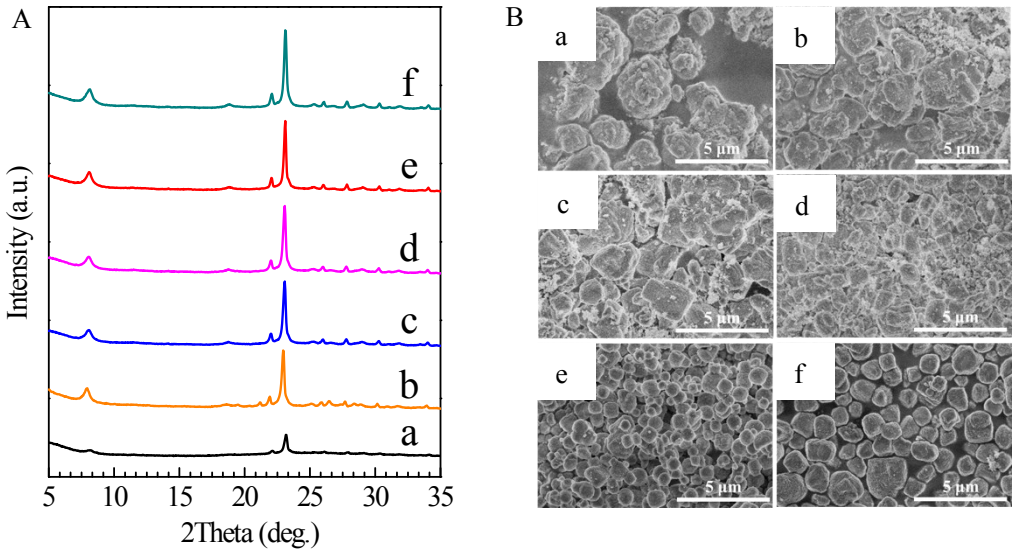

Figure S5 XRD patterns of the samples crystallized for 2 d (a), 3 d (b), 5 d (c), 6 d (d), 7 d (e) and 10 d (f), respectively. Other crystallization conditions: 1 SiO_2 : 0.5 M_2Cy_2OH : 0.01 $SnCl_4$: 0.08 NaOH : 7 H_2O; 5 wt% seed; temp., 413 K.

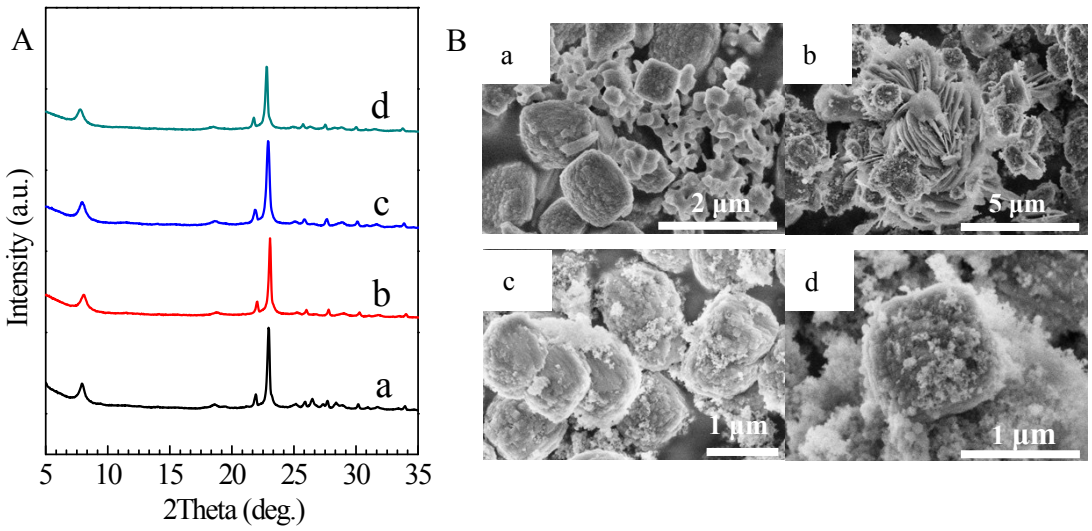

Figure S6 XRD patterns (A) and SEM images (B) of the samples obtained with a Si/Sn ratio of 200 (a), 150 (b), 80 (c), 60 (d), respectively. Other crystallization conditions: 1 SiO_2 : 0.5 M_2Cy_2OH : (0.005 - 0.017) $SnCl_4$: 0.08 NaOH : 7 H_2O; 5 wt% seed; temp., 413 K; time, 7 d.

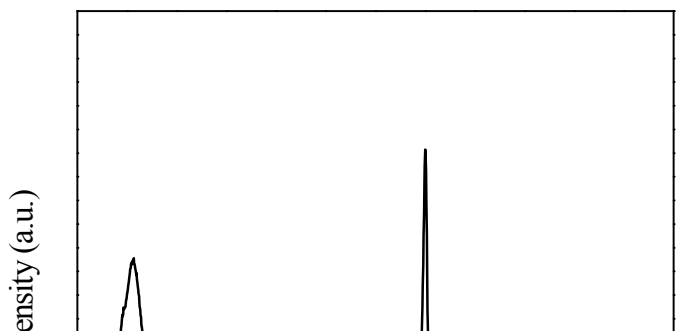

Figure S7 XRD patterns of as-synthesized Sn-Beta-150-F.

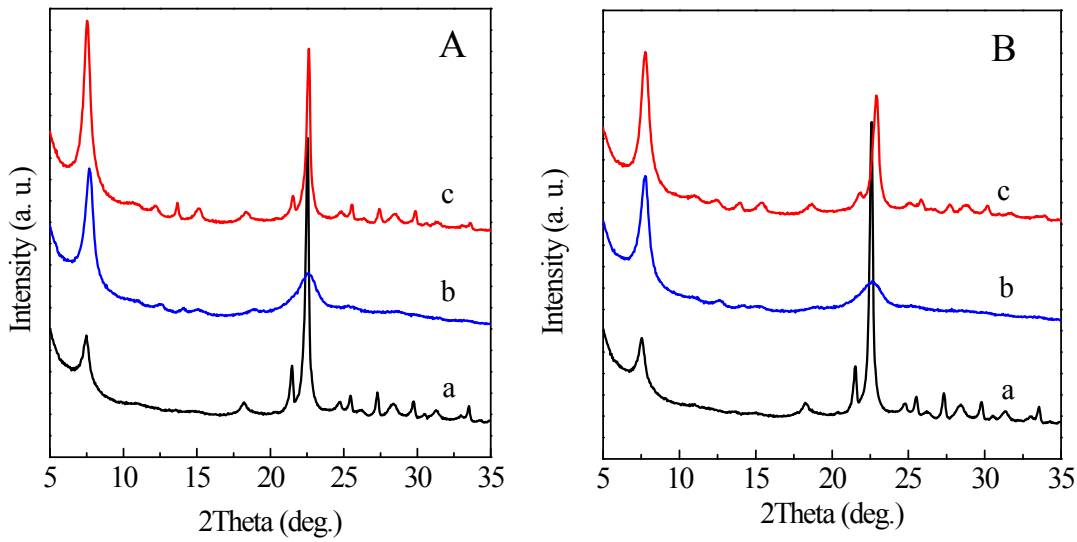

Figure S8 XRD patterns of of Sn-Beta-150 (A) and Sn-Beta-200 (B) in as-made form (a), directly calcined form (b), and ion-exchanged and subsequently calcined form (c), respectively.

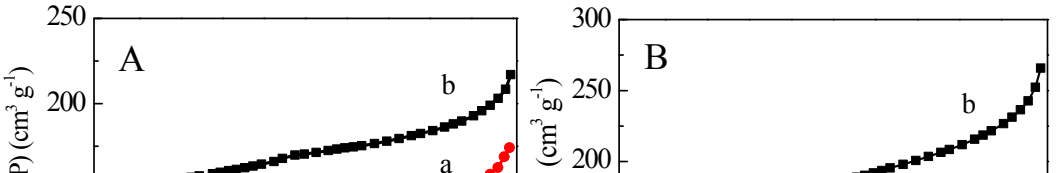

Figure S9 N_2 adsorption isotherms of Sn-Beta-150 (A) and Sn-Beta-200 (B) in directly calcined form (a), and ion-exchanged and subsequently calcined form (b).